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Original Articles.

THE TREATMENT OF MALIGNANT DISEASE.*

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The treatment of malignant disease is of paramount importance. The questions of etiology, symptomatology and classification of malignant disease are insignificant as compared with the treatment. This subject can only be appreciated by a recognition of two salient facts: 1, the increase of malignant disease; 2, the universal mortality.

To better appreciate the vital subject under discussion it is pertinent to consider for a few moments the increase of malignant disease in order to better understand the importance of its treatment. Humanity at large seeks for relief from this dreadful scourge, and humanity appeals to the surgeon for help, as he is the only one who can effect a cure.

The increase of cancer is a fact which as it is not understood, can not be explained. Through the kindness of Mr. Frederick L. Hoffman, of the Prudential Life Insurance Company, I am indebted for some information which has never been published, and which is as interesting as it is startling. For example, he has prepared some statistics upon the increase of cancer of the breast in Rhode Island and Connecticut, in Philadelphia, and in the District of Columbia. While these statistics are limited to cancer of the breast, they serve well our purpose, as a general basis of calculation, for cancer affecting other organs. These statistics show that for the past thirty years cancer of the breast has materially increased, and the rates have been calculated on the basis of 1,000,000 of population.

In Rhode Island the increase in the mortality of cancer of the breast has been 115 per cent., if we compare the period from 1876 to 1880 with the period from 1896 to 1900.

In Connecticut unfortunately the data do not go back further than 1882, so that strict comparison is not possible; but an approximate comparison indicates an increase of mortality since that date of 12 per cent.

In the City of Philadelphia the period from 1861 to 1865, compared with that of 1896 to 1900, shows an increase of 179 per cent. in the mortality of cancer of the breast. It is only fair to add that from the period of 1876 to 1880 to the period from 1896 to 1900 the increase was only 12 per cent., the explanation for which will be considered later.

In the District of Columbia there has been an increase in the mortality of cancer of the breast of 50 per cent. from the period of 1876 to 1880 till 1896 to 1900. The chart will enable one to see at a glance the increase in the mortality of cancer of the breast during the past thirty years.

Perhaps an illustration of the increase of cancer in this environment might be pertinent. In the City of Milwaukee in the year 1878 there were 25 deaths from cancer per 100,000 population. Levings assigns as an explanation of this condition the fact of "the increased average age of man, and the necessary and consequent increased prevalence of diseases like cancer, in which hereditary predisposition plays an important part." Whatever theory is accepted as to the cause of increase it matters little. The fact stands out in the foreground, in bold relief, that the disease is increasing, and this behooves the surgeon to continue investigations until he can ascertain the cause, and apply the remedy, to the disease.

The death rate from cancer for the United States in 1890 is 53 per 100,000 of population, for England 67, for Scotland 60, for Austria 52, for Ireland 45, for Prussia 43, for Italy 42.

If now, instead of countries, the different states of the Union are considered, it is found by the census report for 1890: Vermont 75 per 100,000, New Hampshire 69 per 100,000, Massachusetts 66 per 100,000, Connecticut 55 per 100,000; New York 53 per 100,000, District of Columbia 49 per 100,000; New Jersey 47 per 100,000, and Delaware 35 per 100,000.

In all of the calculations by states the age element is ignored. Therefore, in states like Vermont and New Hampshire, where the proportion is so great, allowance must be made for the fact that the emigration of the young people to the Western states especially leaves proportionately to New England a larger number of persons liable to death from cancer.

The increase average age of human life does not altogether account for the increase of cancer. There are no accurate life tables for this country, for a period of thirty years; but there are such tables in England, which may serve as a basis for calculation in this country. In the period from 1838 to 1854 the expectation of females at birth was about 41 years. In the period from 1881 to 1890 it increased to about 47 years. These figures show an increase of about 5 years, which is equal to about 12 per cent. It is upon such a calculation as this that Levings and others have offered an explanation of the increase of cancer to the increase of the average length of life. It is, however, erroneous to reason from this slender basis of facts, because, in the first place, the expectation of life affects the entire period of life, and, in the second place, the actual gain made at birth may, and, as a matter of fact, does, affect only the younger age period. In other words, the expectation of life may

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have been increased at birth, while the decrease may have taken place at older years, or at the time when the patient has reached the cancer age. This has actually been the case, since for England and Wales the expectation of life at 45 years and over is now somewhat less than it was fifty years ago.

We must look, therefore, to some other cause to explain the increase of cancer than the statement of the increase average length of life.

On the other hand, it is maintained by some that cancer is increased apparently and not in reality. Newsholme claims that this apparent increase is due to greater accuracy in the returns of death certificates, and to the diminution of the number of death certificates in which indefinite headings are employed. He claims that if we follow the statistical method which is adopted to demonstrate the increase of cancer, along similiar lines we can prove that the number of individuals dying from old age has enormously decreased. This is erroneous, because death certificate returns which formerly were made out with old age as the cause of death, now have the real cause assigned to them.

In other words, that the increase in the number of correct death certificates, and the decrease in the number of incorrect certificates, bring out apparently the fact that cancer is on the increase, whereas it may be the reverse. This is in marked contrast to Park's statement that if in the next ten years the increase of cancer mortality is maintained there will be more deaths from cancer in New York State than from tuberculosis, smallpox and typhoid fever combined.

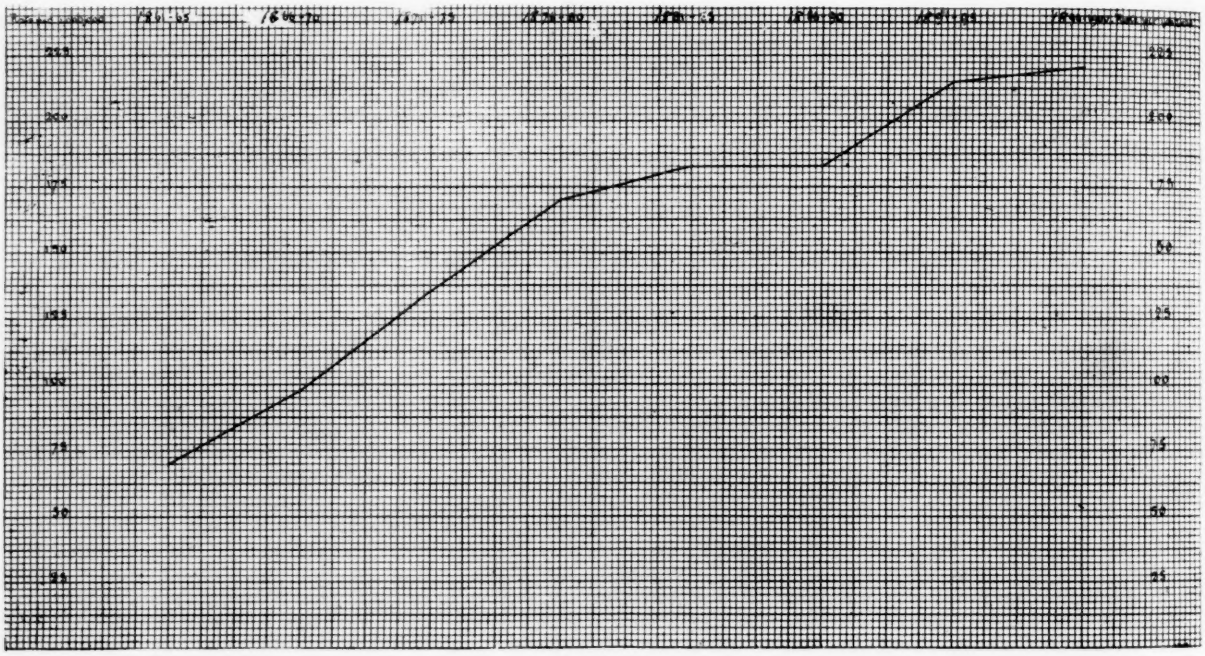
There are some very interesting data which show the increase of cancer of the breast in certain periods. each period consisting of five years. In the City of Philadelphia, if we start with the first period covering the years 1861 to 1865, inclusive, the increase in the mortality of cancer of the breast down to the period of 1896 to 1900 is 179 per cent.; 150 per cent. of the 179 per cent. was gained up to the year 1880. The increase in the mortality of cancer of the breast from the fourth period ending in 1880, to the five years ending in 1900, is only 12 per cent. In other words, the brilliant diminution in the increase of cancer of the breast in Philadelphia is due to the magnificent results of surgical work in that city. If this standard is kept up, in the five years to come the surgery of Philadelphia will reduce the mortality of cancer of the breast to a percentage which will be phenomenal.

In the District of Columbia the mortality of cancer of the breast in the four periods of five years each, beginning with the period of 1876 to 1880, till the period of 1896 to 1900, is 50 per cent.

In Rhode Island the increase of mortality of cancer of the breast for this same extent of time is 115 per cent.

In Connecticut the data do not extend far enough back to make a comparative estimate; but from the sixth to the eighth periods, i. e., from 1882 to 1900, the increase is 12 per cent.

It seems irrelevant to dwell at length upon the actual or apparent increase of cancer, the paramount subject is the treatment, since in England alone there are 7,000 deaths annually from carcinoma, and 30,000 patients suffering at all times from the disease. In the United States, in 1890, there were over 18,000 deaths from carcinoma; in fact, there were probably more than 18,000, since in many states no registration system provides for accurate mortality returns, and in all probability 25,000 deaths is not too high an estimate.



MORTALITY FROM CANCER OF THE BREAST AMONG FEMALES IN RHODE ISLAND, CONNECTICUT, PHILADELPHIA AND DISTRICT OF COLUMBIA. PREPARED BY MR. FREDERICK L. HOFFMAN.

Cancer causes nearly half as many deaths in the United States in one year as are caused by accidents and injuries of all kinds and descriptions; and it is responsible for more deaths, in one year, in the United States than the sum total due to erysipelas, tetanus, hydrophobia, lightning, appendicitis, gunshot wounds and joint disease, together with other well-known surgical affections. These facts emphasize the importance of the subject under discussion.

Before discussing the treatment of malignant disease by surgical interference, it is necessary to review, in a cursory manner, the principal methods of treatment at

present in vogue. Reference to these methods is made in order to complete the list of recognized plans of treatment. The different methods to be described before discussing the surgical operations are: 1, the *x*-rays; 2, electricity; 3, caustics; 4, drugs, and 5, toxins.

The Roentgen Rays.—Dr. Francis H. Williams reports the use of the *x*-rays in the treatment of cancer. He employed them for five minutes daily, but thinks that it is not necessary to make such frequent exposures. He reports excellent results in those cases where the cancer was superficial. Dr. Williams believes that the *x*-rays will prove of great value in cases of cancer involving the deeper structures.

The conclusions at which Dr. Harvey P. Towle arrived, in reference to the *x*-rays as a therapeutic agent, are so concise and pertinent that I shall quote them verbatim: "1, that the real nature of the *x*-rays is not yet determined definitely, nor is it known whether the therapeutic action following their use is due to the action of the rays themselves, or something of electrical origin accompanying them; 2, that the treatment is not without danger unless the greatest care is used; 3, that the effects of the *x*-rays remain for a long time, and recovery is very slow; 4, that whatever may be the exact origin of the effects produced, a definite reaction is caused in the skin by the use of the *x*-rays; 5, that the changes induced in the skin are similar, histologically, to those seen in ordinary inflammation; 6, that the *x*-rays are not proved to have any bactericidal power; 7, that their therapeutic effect is probably due to the inflammation excited; 8, that hair can be removed by their use, and that lupus and several other diseases can be healed over; 9, that in a few reported cases we may fairly assume that a permanent cure has been effected; but that in a majority of the reported cases, too little time has elapsed to rule out the possibility of a return of the disease; 10, that the effect of exposure to the *x*-rays is so extraordinarily slow in disappearing that months should elapse before an absolute cure is assumed; 11, that while the permanency of the cure effected may perhaps be doubtful as yet it is certainly desirable to experiment further."

The treatment of malignant growth by the *x*-rays is therefore still in embryo, and the time is too short to predict, with any degree of certainty, as to the permanency of the few cures that have been claimed; our knowledge of the modus operandi of the *x*-ray is still shrouded in mystery. The serious objections to the use of the *x*-rays in the treatment of malignant disease can, in a measure, be overcome, by shortening the length, and diminishing the frequency of the exposures, and by more accurate knowledge as to the distance of the tube from the tumor.

How it will cure malignant disease no one knows beyond the fact that the *x*-ray "acts by its electric action or by the electrolytic discharges generated in the integument by a high potential current." All that can be said, at the present time, is, that the results of treatment by the *x*-rays are still *sub judice* and that more data must be forthcoming before any opinion can be expressed as to their value.

Electricity.—The use of electricity in treatment of malignant disease is only mentioned for the purposes of condemnation. In this field of surgery it has no place as a therapeutic agent, and while its use is of value in certain diseases, in this special department it is worse than useless.

Caustics.—The use of caustics is limited to those forms of epithelial ulcers which are situated upon the skin and are very superficial. In this variety of epithelioma, as well as in myxomata, situated upon the surface of the integument, the employment of caustics has been attended by a certain amount of success. There are no statistics as to the permanency of the cure that I have been able to find, with the exception of here and there an isolated case. I have never seen an epithelial ulcer upon the skin the entire removal of which, by free incision, is not preferable to the application of escharotics. I have had good results in small myxomata treated by fuming nitric acid; but, as a rule, my experience has taught me that the remedy is unsurgical in most cases, and that only in exceptional forms of malignant disease is the use of escharotics to be resorted to as a means of permanent cure.

When it comes to malignant disease, such as sarcoma of the bone, or cancer of the breast, I deem it unsurgical to subject the patient to such treatment. In these cases surgical intervention is the only proper resource. I am aware that there are men in the regular profession who treat the different varieties of malignant disease by caustics; but I have searched the literaure of surgery in vain for any reports of permanently cured cases, and I have been unable to obtain by personal communication any data upon the great question of permanent cure. If these men have their statistics they should publish them for the benefit of the profession, and on behalf of suffering humanity.

The arguments used by the advocates of the caustic treatment appear fallacious in the extreme, since the pain of the caustic is nearly as severe as incision, and lasts much longer. The voidance of an anesthetic is claimed as another argument in favor of caustics; but with Schleich's method of anesthesia in the smaller growths, and by the use of nitrous oxid gas or oxygen, in the larger ones, this objection, so strongly urged, is entirely overcome.

Even in amputation of the breast, in aged patients, I have employed the gas with no pain, but little shock and no disagreeable after-effects of anesthesia. The avoidance of shock and hemorrhage are also claimed by the advocates of the caustic treatment; but the shock of incision in local anesthesia, or under the influence of gas, is not greater than the prolonged agony caused by escharotics, besides the dangers of secondary hemorrhage are obviated, as well as a long period of convalescence incident to the repair of a sloughing wound.

The employment of caustics in the treatment of malignant disease, with but rare exceptions, is therefore to be condemned; because the method is attended by pain, does not effect permanent cures, causes extensive sloughs with the consequent dangers of secondary hemorrhage and septicemia, and requires great loss of substance, which takes a long time to repair and then often in an unsatisfactory manner. In no way can the caustic remove diseased tissue which the scalpel can not better accomplish, and in no way is the healing better or the cure as permanent as by a clean aseptic operation.

Drugs.—Launois, in February, 1901, reported promising results in the subcutaneous injection of chlorohydrate of quinin in inoperable cases of malignant disease. Berger employed the serum of Wlaiev and maintained that the functional symptoms were improved, but that the growth itself was in no way affected. Petrini injected 5 centigrams of this serum according to Gautier's method, and gradually raised it to 12 centigrams in a case of multiple sarcomata, and claims to have cured the case in six weeks. There is no information as to the

permanency of the cure, and therefore no conclusion can be drawn upon this case owing to insufficient data.

Tuffier recommends the use of the drug; but he gives no cases from which any conclusions can be drawn.

Formalin has been hypodermically injected; but this plan of treatment has only proved a failure. In fact, it seeems a waste of time to review any more remedies suggested for the cure of cancer. They are all of one class, and they are all followed by failure. They are all injurious because their employment occupies valuable time and only postpones an operation, the only method of treatment worthy of adoption.

Pyoktanin has been suggested as a remedy by Mosetig Moorhof, who employed it with a view to destroying the nuclei of the proliferating cells of cancer. This remedy, like all the others, afforded, in some cases, temporary benefit; but I am unable to find any reports regarding the permanency of the cures.

Thyroid extract has recently been extolled as a curative agent. I have tried this drug in a large number of cases, but in no one as yet have I seen a permanent cure. Thyroid extract will retard the rapid ulceration in cancer; it will relieve the pain in some cases; it will control the hemorrhage; it will dispel in many cases the disagreeable odor arising from the infection; it will prolong life; it will make the patient comfortable, but it will not cure. This is all that can be expected from thyroid extract, and this drug stands as a prominent example of all the drugs that have been introduced into practice as specifics in malignant disease.

Chian turpentine has been extensively employed as a curative remedy in cancer. This medicine was introduced by Clay of Manchester, and his reports are such as to attract attention to its use. Personally, I have been greatly disappointed in the remedy, as I have never seen a case of cancer cured by it; although, in some instances, I have observed a diminution in the pain, ulceration, hemorrhage and odor. This, however, has never been so well marked as in the case with the thyroid extract.

Methylene-blue has been highly extolled by some surgeons. I am frank to confess that notwithstanding its administration in many cases I have never seen a cure effected by it, and only in a few instances any temporary benefit. It decreases the odor to a certain extent, perhaps arrests in a certain degree the ulceration, and in this way controls the secondary hemorrhages. At one time I was quite confident that it would prove of signal value; but a more extended experience has led me to believe that it has failed to accomplish that which was expected of it.

Potassium iodid in very large doses has been employed with a view to curing sarcoma. Some authorities have reported cases of cure following the use of this drug. I must confess that I have never seen a case of sarcoma cured by potassium iodid. I have seen some inflammatory neoplasms disappear, and can recall several cases of absorption of exudations which were large enough to produce pressure symptoms.

In one case of complete hemiplegia 600 grains of the iodid given daily, and continued for several weeks, caused the intracranial exudation to absorb, and complete recovery followed. It is now over ten years since the attack. In still another case I saw a mono-brachial paralysis disappear after using the iodid in several hundred grain doses daily. These cases, however, had without doubt a specific history, and such neoplasms must not be confounded with sarcoma, although the histologic formation may be very similar. It is precisely in this class of cases that errors of diagnosis have been made, and consequently cures reported which were supposed to be sarcoma, when in reality the growths were not malignant.

The *toxins* of the streptococcus erysipelatis and the bacillus prodigiosus mixed is a method as advocated by Fehleisen and Coley. The treatment is carried on by hypodermic injections of small and increasing doses. The best results are obtained in the mesoblastic growths, and the giant-celled sarcomata. It is not to be employed as a substitute for operation and only in cases where the tumors are inoperable. Coley's article on the results of this treatment is worthy of perusal. The writer has personally seen but temporary benefit from this method, but in no case a cure.

The writer referred to Coley's paper,[1] in which he gave the results of 140 cases of inoperable sarcoma treated with the mixed toxins of erysipelas and bacillus prodigiosus. In 24 of these the tumor completely or partially disappeared as a result of the treatment. In 84 of this series the sarcoma was round-celled; in 21 spindle-celled; in 9 melanotic; 2 chondrosarcoma; in 12 the type of cell was not stated, though the diagnosis was confirmed by the microscope; 6 were inoperable sarcoma, the diagnosis resting upon clinical symptoms, combined, in most cases, with a history of repeated recurrence.

In 40 cases of the round-celled, or slightly less than half, more or less improvement was shown by decrease in size or cessation of growth. In only 4 of these was the treatment permanently successful. Of 21 cases of spindle-celled sarcoma 10 disappeared entirely; all the remainder showed marked improvement. In no case of melanotic growth more than temporary improvement was noted. At the time of this report 8 cases had remained well from 3 to 6 years; 9 from 1½ to 3 years.

In addition to these personal results, the paper contained a summary of results in 35 cases successfully treated by other surgeons employing the same method. Of these 35 cases, 10 were round-celled; 10 spindle-celled; in 5 the diagnosis was clinical only; in 5 there was, in addition to the clinical signs of sarcoma, a history of recurrence after operation; in 4 the diagnosis of sarcoma was confirmed to microscopic examination, but the type not stated; 1 was endotheliosarcoma. Of these 35 cases 26 disappeared completely; 2 others decreased so much that only a small node was left, which was easily excised. One of the latter cases was well three years and the other one year at the time of report. Of the 35 cases referred to, 14 were well over two years, and 6 cases over three years. The object of the paper, the author said, was to determine, if possible, from a careful tracing of the successful cases, whether the action of the toxins upon sarcoma is to be regarded as of temporary or permanent value; in other words, whether or not it is entitled to be called curative. At the time of his report in 1898, 8 of his personal cases had remained well from three to six years; he stated that this number had now increased to 16 that had remained well from three to eight years. Of these, 2 recurred, one at the end of three and one-quarter years, and the other after eight years both proving fatal. The diagnosis was confirmed by the microscope in all cases with two exceptions. In these instances the history of the cases with the clinical appearances made the diagnosis of sarcoma unquestionable. The type of tumor in the 16 cases that passed the three-year limit, was as follows: Spindle-celled

1. THE JOURNAL A. M. A., Aug. 27, 1898.

sarcoma, 8; spindle-celled (probable), 1; round-celled sarcoma, 2; mixed-celled sarcoma, 2; epithelioma, 1; sarcoma (clinical diagnosis only), 2. It is worthy of special note that two of the successful cases now well—three and three-quarters and four and one-quarter years, respectively, were sarcoma of the parotid gland. Butlin, in his last edition of "Operative Treatment of the Parotid Gland" states that "up to the present time there are very few instances of cure by operation of undoubtedly malignant disease of the parotid." In my two cases treated by the toxins the diagnosis was not only confirmed by a competent pathologist, but further by a history of repeated recurrences after operation.

The results thus far, he stated, seem sufficient to warrant advising the treatment as a routine measure after all operations for primary sarcoma. While the treatment is not recommended in carcinomatous growths, it has been the experience of the writer that in many cases the toxins exert a marked inhibitory influence in carcinoma, although it is rarely curative. The only cases of carcinoma in which the toxins are likely to prove of much value, I think, are those in which they are used after primary or secondary operation, as a prophylaxis against recurrence. Up to the present time sufficient experience is lacking to justify one in making any definite statements as to how much may thus be accomplished.

The writer still believes that the action of the toxins upon malignant tumors can be explained only upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recent expressed opinion of Czerny.

Cancroin, a toxic product obtained from cancerous tissue, has been injected by Adamkiewicz. This remedy has not cured cancer, but in some cases has secured a minimum of benefit. This brief summary of the other methods of treatment has cleared the way for the discussion of the treatment by surgical intervention, which is really the only method that offers any prospect of success.

SURGICAL INTERVENTION.

Surgical intervention is the only resource, since all drugs have proved ineffectual, and all other methods practically of no avail. It is, however, only successful when the disease is taken early in its history, and when the operation is radical in its character. Delay in operating is attended with great mortality. The more radical the operation the more certain its cure. Six months from the beginning of the disease is the utmost limit of time; statistics in my own cases prove that after the expiration of this time results are uncertain. An early, and a radical operation, therefore, are the essential requisites for cure in malignant disease.

Various methods of treatment have been indulged in from time to time; but radical surgical interference is the only method that meets with encouraging results. That surgical operation will permanently save a patient is demonstrated by a study of the cases presently to be reported.

In every instance the names of the physicians who were present at the operation are given for reference, and accompanying each case is the microscopic report of the tumor by an eminent pathologist. The exact date of operation, the situation of the tumor, the main points connected with the clinical history are reported. No case is given in which at least three years have not elapsed since the time of the operation. In many of the cases from 10 to 22 years have transpired without the slightest evidence of return. They are reported to prove the value of surgical intervention over all other methods of treatment, and at the same time to call attention to the conditions essential to success. The report should also offer hope to those who are the victims of malignant disease, since surgical interference is the only salvation for these patients.

Before discussing the subject of statistics in reference to permanent cure in malignant disease by surgical operation, I wish to say frankly, that I consider them of questionable value. They do not afford the accurate information of which the searcher after truth desires. I make this statement after much thought, deliberation and personal experience, and I am fully aware of the opposition it may invoke. My reasons are these: 1. There is no unanimity among surgeons in regard to the elimination of cases for statistical purposes; for example, one surgeon will thrown out a large number of cases on the ground that they were inoperable, which fact was ascertained in the attempt to remove the disease, and therefore they are not to be included in the final list as determining the result. 2. Another surgeon will throw out a large number for the reason that the histories are unknown, or include some cases with the clinical history of cancer without microscopic verification. 3. The types of malignant disease have such a wide variation that tumors of one class which are more rapidly malignant than those of another class are placed in the same category, and such a comparison without doubt is unfair. 4. The causes of death are ascribed in some cases to acute sepsis, while these cases died, in reality, from too prolonged anesthesia, the deferred shock of which rendered the patient less resistant to overcome any sepsis. 5. The number of cases of malignant disease, affecting one organ for example, upon which an estimate is to be based, is too limited to convey by statistics any reliable information as regards mortality or permanent cure. For example, I have had 100 per cent. of permanent cure in certain malignant disease affecting a certain organ; but I had only one case. For these, and many other reasons, I feel convinced that statistics upon this special point are unreliable; in other words, they do not furnish us with the entire truth.

With these remarks as a preface I will give in a brief way some results from my own personal experience. I would add that these statistics have been verified by a learned mathematician and scholar who did not possess a medical degree, and therefore was ignorant of any information bearing upon the subject that the figures might show. I would further add that it is possibly a case may have been reported wrongly, or a clerical error may have occurred in keeping a history of so many hundred cases. As far as I know, however, the reports are accurate.

The two questions of mortality and permanent cure may be stated in the following terms. In the cases reported prior to 1891 at the meeting of the Congress of American Physicians and Surgeons, there was no mortality in amputation of the breast for cancer or sarcoma, or for any other cause with the exception of two cases of hemophilia. There was no mortality in the operation for removal of epitheliomata or sarcomata of the skin. There was no mortality in the operation for removal of sarcoma affecting the glands, and likewise the superior maxilla. There was one death in excision of malignant disease of the intestine, and also one death following

amputation of the hip-joint. In reference to the percentage of permanent cures following the operation for the removal of cancer of the breast there was 45 per cent. of permanent cures up to 1891, and in the last series of 15 cases the percentage was 83 per cent. of permanent cures of over 3 years' standing and 75 per cent. of permanent cures in cancer of the face, including epithelioma of the lip.

In regard to sarcoma there was 85 per cent. of permanent cures in sarcoma of the breast, and 92 per cent. of permanent cures in sarcoma of the glands, 100 per cent. of permanent cures in sarcoma of the superior maxilla, 92 per cent. of permanent cures in sarcoma of the long bones. There was, finally, 100 per cent. of permanent cures in simple sarcoma involving the skin.

In no instance have I used the expression permanent cure when three years have not elapsed since the operation, and in nearly every case the period has been over seven years, and in a few up to twenty-two years to the present time. I have not collected my cases since this last report, but hope to do so at some future time.

Let us now return to the more important question which is: Can any cases be reported that have been entirely cured, and, if so, how many, and of what character was the malignant disease? It seems to the writer that positive information upon this vital point is worth more than all the statistics bearing upon the percentage of curability of malignant disease. It is the absolute fact of permanent cures that interests the surgeon and the laity.

The writer reports 87 cases of malignant tumors in patients upon whom he has operated, and at least three years, and in many of the cases ten, and in some twenty-two years have elapsed without recurrence. The list includes 48 sarcomata and 39 carcinomata, making in all 87. To this list a sufficient number of cases can soon be added, which will make the list at least 100, but a few months are lacking at present to have these cases reach the full three-year limit. These cases place beyond all doubt the question as to the possibilities of a cure in malignant disease.

These cases are reported as an encouragement to surgeons in their attempts to save human life, and also as a ray of hope to the unfortunate victims of malignant disease. It is possible under certain conditions for surgery to offer to patients afflicted with this terrible scourge that destroys annually so many lives, and blights so many homes, a cure for their malady. These tumors are upon exhibition at the Pathological Exhibit, and also the microscopic slides with sections.

Each one of these cases has been carefully watched, and the work necessary to make these statistics complete has been a labor fraught with the greatest difficulty. The satisfaction of knowing that surgery can cure these malignant growths repays the writer for his years of labor in tracing these cases down for a period of a quarter of a century to the present time.

In these 87 cases of malignant tumors operated upon, and cured by the speaker, it may be of advantage to classify them in a general way, so that some idea can be formed of the success which surgical operation can expect in these diseases of such frightful mortality.

1. *Sarcoma of Superior Maxilla.*—I am unable to find any satisfactory reports upon permanent cures in sarcoma of the superior maxilla. My cases of permanent cure number 5, in which the shortest period is eight years, and the longest is eighteen years.

2. *Sarcoma of Glands.*—I am unable to find a satisfactory report of cases of permanent cure in sarcoma of the glands. My cases number 7, in which a permanent cure has taken place, the shortest period being eight years and the longest twenty-one years.

3. *Sarcoma of the Skin.*—I am unable to find any satisfactory reports upon the results of treatment in sarcoma of the skin. My cases number 22 in which a permanent cure has taken place, and in which the shortest period is eight years and the longest is sixteen years. One case is included in the list with an explanation, since, in 1891 I operated on the patient for the first time, and at present she is alive. I have operated upon her over forty times for the relief of multiple sarcomata of the skin during the past eleven years. For eleven years she has been willing to submit to operations, and at the present time is without any new outbreak; since sufficient time has not elapsed from the date of the last operation she can not strictly be as yet in the category of permanent cures. Since the past few years she is comparatively free from any return and there is every prospect of cure in her case. This case is most remarkable as one illustrating the principle that as long as the patient will allow operations they should be performed, because there is a chance of permanent cure even in these cases.

4. *Sarcoma of the Breast.*—I am unable to find any satisfactory reports of sarcoma of the breast as distinguished from carcinoma of the breast. My cases number 6 in which a permanent cure has taken place, the shortest period being seven years, and the longest twenty-two years.

5. *Sarcoma of Bones.*—I am unable to find cases of permanent cure of sarcoma of bones by any other method of treatment than by surgical intervention, with the exception of those reported by Coley. In regard to this method, mention has already been made. Butlin reports 29 cases of sarcoma of the leg with a mortality of 30 per cent. in the operation itself, and only one single case could have been said to have been completely cured, taking three years as the standard of time. This high rate of mortality, in the operation itself, is a most astonishing fact, and is only surpassed by one still more startling, which is that out of this original list of 29 cases only one single case was reported by him as having been completely cured.

My cases of sarcoma of the leg number 8 in which there was a permanent recovery, the shortest period being sixty years and the longest thirteen years.

The treatment of sarcoma of the long bones is simple, because there is but one operation, and that is amputation. From an experience derived from a number of these cases of sarcoma of bone, and from opinions formed after careful study of the cases of others, I am more and more impressed with the fact that amputation is the only operation which should be contemplated. I refer to sarcomata of the long bones. The operation of exsection or enucleation, and an application of caustics are, in my humble judgment, productive of harm; because the disease is not, as a rule, radically removed by these methods, and oftentimes the tumor returns very rapidly, and the operation seems only to add fuel to the fire.

I believe that in all cases of sarcoma of the long bones amputation should be decided upon at the earliest period possible, and the operation performed without delay. At the point of election I would suggest an amputation which would remove the entire bone affected.

whether it be a subperiosteal or central sarcoma. This necessitates an amputation of the lower part of the thigh in case the tibia or fibula is the seat of the neoplasm. It necessitates an amputation of the hip-joint when the tumor is subperiosteal, and involves the shaft of the femur. In view of the great mortality of hip-joint amputation, a possible exception might be made in case of a central sarcoma of the condyle of the femur which was recognized early, and which was small in size. By amputation in the lower third of the femur in sarcoma of one of the bones of the legs, the popliteal glands are thus removed, and while this point would concern us more if the disease were cancer, yet I have seen a case of sarcoma affecting those glands.

The remedy of amputation which is suggested, is a severe one; but the disease for which the amputation is performed is a uniformly fatal one if left to nature, and in view of the great malignancy of sarcoma, I believe the operation should be the most radical one consistent with a due regard for the life of the patient during the immediate performance of the operation. It must be remembered that the patient is suffering from a uniformly fatal disease, and the chances of escape from it are in proportion, within proper limits, of course, to the distance at which the limb is removed from the seat of the malignant tumor. Finally, I trust that I have been sufficiently clear upon the following points:

1. The importance of early recognizing the disease and the necessity of complete removal of the limb, including the entire bone affected, by amputation without delay.

2. The importance of carefully watching the subsequent history of patients upon whom an operation has been performed for the removal of sarcoma.

3. The importance of a microscopic examination of every sarcoma. Surgeons are of one opinion upon this point, that a microscopic examination is a *sine qua non* to insure the tabulation of a case for purposes of study.

4. The importance of a radical operation in these cases of malignant sarcomata affecting the long bones of the extremities, and the condemnation of partial enucleations and the use of caustics and plasters.

5. The importance of encouragement to patients suffering from malignant disease of the long bones, on the ground that early and radical operations, even in the most malignant cases, may result in perfect cure.

6. *Carcinoma of the Skin.*—I am unable to find any satisfactory reports of permanent cures in carcinoma of the skin. My cases number 19 in which there was a permanent cure, the shortest time being five years, and the longest twenty-one years. In this group is included a case of carcinoma of the ileum and cecum with resection of six inches of the bowel and a subsequent anastomosis with a Murphy button. It is now nearly four years since the operation and the patient is well and at work.

7. *Carcinoma of the Breast.*—My cases number 20 in which a permanent cure has taken place; the shortest period is four years and the longest thirteen years. Each one of these 20 cases is alive to-day and with no return, or recurrences, or metastases.

The result of the treatment by surgical interference shows, therefore, that these 20 cases have been permanently cured, and no other method or plan of treatment can furnish 20 cases that have been subjected to the test of so many years of immunity.

If now the 6 cases of sarcoma of the breast, of which mention has been made, be added to the 20 cases of cancer of the breast, there are 26 cases of malignant disease of the breast cured by surgical operation, the shortest period being four years and the longest twenty-two years.

CARCINOMA OF THE CECUM.

WITH REPORT OF CASES IN WHICH THE CECUM WAS REMOVED FOR MALIGNANT DISEASE.*

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Ileocecal carcinoma is not an infrequent malady. Ewald in a collection of 1148 cases of intestinal cancer found 64 in the cecum and 26 in the ileum, and more than half of the latter involved the ileocecal valves. Sutton says that of 100 cases of intestinal carcinoma 75 will involve the rectum, 23 the large intestine and but 2 the small bowel. Frank's table shows that two-thirds of all cancers of the large bowel involve the cecum and sigmoid flexure, and in about equal proportion. From these statistics it can be estimated that 7 per cent. of all malignant diseases of the bowel involve the cecum. Sex does not seem to have much significance. The average age of cases of carcinoma of this organ is somewhat younger than malignant disease in other parts of the body, and while not frequently found in the young it is sufficiently common to warn us against laying too much stress on the years of the patient.

Among the most frequent of the attributed causes is constipation, but if this is an important etiologic factor it would seem that the disease would affect females more often than males; yet this is not the fact. Maylard states that primary carcinoma of the intestine is always of the columnar-cell variety and Furnival points out the frequency of colloidal changes, particularly in the young. Lymphatic infection is found in less than one-half of the cases dying from intestinal carcinoma. Haussman, in 112 collected autopsies, found that 55 were limited to the gut, the remainder showing lymphatic involvement in 36 cases and in 21 cases general infection. More than one growth is seldom discovered, although two or more points of disease have been reported; whether all were primary or from a single source of infection and carried to the situations found by implantation or arterial emboli it is impossible to state.

The disease most frequently originates at the ileocecal juncture and has the usual tendency of all carcinomata of the large bowel to form a ring-like constriction, although a considerable tumor may exist without obstruction. The duration may be very prolonged and its course before active obstruction supervenes is usually slow. Briddon reports a case of twelve years' probable existence. Death usually results from obstruction or perforation, the latter either just above the stricture and close to it, or at some point in the cecum from distension; perforation is somewhat more frequent (7 to 4).

The distension ulcer in the cecum is similar in pathology to the distension ulcers in the small intestine about which Kocker has written so interestingly. The symptoms of malignant disease of the cecum are colicky pains, constipation alternating with diarrhea and progressive wasting. A tumor may be felt in some cases.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee of the Section: Drs. W. J. Mayo, H. O. Walker, and A. J. Ochsner.

In the later stage intestinal peristalsis can be plainly seen through the attenuated abdominal walls and is usually accompanied by marked gurgling. Other cases present symptoms of chronic appendicitis with an induration indicating a small inflammatory deposit about the appendix. This was true of two of our cases. As the obstructed material is largely accumulated in the small bowel, symptoms of gastro-intestinal irritation are more marked than if the large bowel only was involved. A few cases are ushered in without premonitory symptoms by an attack of acute obstruction. König, Korte, Barton and others report cases in which an acute intussusception was the first sign of trouble.

The differential diagnosis between malignant stricture of the cecum and simple or tuberculous strictures may be impossible without exploration. In a paper on "Localized Tuberculosis of the Intestine" read before the Minnesota Academy of Medicine, Feb. 1, 1899, I reported three cases of tuberculosis of the cecum, and I have met with one additional case since that time. In these cases the foul discharges from the bowels, slight but constant temperature, tendency of the tuberculous mass to soften, taken into consideration with the previous history made a diagnosis possible, although the obstructive phenomena were essentially the same.

Cases of chronic inflammatory thickening of the cecum have been reported giving much the same signs and are in some cases, at least, syphilitic in origin. Impactation of feces in the cecum is not so very infrequent and may remain months, if not years, without dislodgement. In one case which I examined in an inmate of the Rochester State Hospital for the Insane, some twelve years ago, such an impactation was known to have been present for several years and finally by atrophy necrosis ulcerated to the surface of the body. Dermoid or other tumors of the abdominal muscles on the right side may confuse the diagnosis. In the one case of dermoid which I have seen the differentiation was most difficult. Dermoids are very rare and usually occur in the female following a labor. There is no history of intestinal obstruction.

Acute obstruction of the bowels is a frequent complication of the malignant process and its relief a prerequisite to a successful outcome. Treves, speaking of intestinal obstruction generally, says that he reduced his mortality 50 per cent. by relieving the distended intestine above the obstruction. This has been done by a simple incision or aspiration (Grieg Smith) or the use of Paul's tubes. The common method of relief has been that of forming a temporary artificial anus and in the large intestine necessarily in this manner. In such cases three operations are demanded: 1, relief of the obstruction by the artificial anus; 2, resection of the diseased area, and 3, closure of the anus, and this last has a mortality of its own. Makin collected 39 intestinal resections for the closure of an artificial anus —21 were cured, 3 uncured and 15 died.

From an operative standpoint the ileocecal coil should be independently considered. In cancerous or other obstruction of either the large or small bowel the normal condition above and below the disease is identical, but in this situation the small bowel empties its contents in a fluid state into the large intestine, in which the feces assume solid form. The question is not one of ordinary intestinal union in which two parts of similar bowel are joined, but one in which by reason of the dissimilarity an anastomosis can be effected under very favorable circumstances.

In ileocecal obstruction, the ileum can be readily joined laterally with the transverse colon. The obstructed intestinal contents are fluid and do not endanger the union as is the case with the solid accumulations in the large bowel, and the size of the receiving intestine and its nearness to the anal orifice gives it all of the advantages of an artificial anus on the surface of the body. The union can be effected at a point sufficiently high on the ileum to secure healthy bowel for approximation. There is also the great advantage in that the communication is permanent. The extirpation when performed later is more easily effected, both ends of the intestine being turned in and closed. We have performed ileocolostomy for various causes six times, in this manner, using the Murphy button, and all recovered from the operation. In four of these cases nothing was attempted in a radical way on the diseased part, the discharges draining satisfactorily from either side of the obstruction. Exclusion of a portion of the intestine can be safely accomplished provided there is some exit for the secretions of the excluded part, but, as shown by the studies of Kammerer, if the exclusion is absolute future trouble can be expected.

Resection of the cecum was first performed by Billroth in 1876, and the operation has now been done many times and a large number of cases have been reported. The operative mortality as given by Grieg Smith was between 30 and 40 per cent. Furnival estimates the mortality of the more recent cases as somewhat less, 20 to 25 per cent., perhaps. Butlin, in 95 reported cases involving the cecum and ascending colon, gives an operative mortality of 29 from shock and sepsis, and 66 recoveries.

Excision of the cecum for malignant disease usually requires removal of the ileocecal juncture and if the disease be not too advanced can be readily effected. The arteries are almost all terminal with but few anastomotic loops (Witherspoon) and the ligation of the blood supply does not endanger contiguous portions of the bowel. A lateral incision is most convenient. The peritoneum along the outer wall of the cecum and ascending colon is divided, the malignant portion of the bowel raised and the vessels ligated. The ascending colon is cut across, one and one-half to two inches above the upper limits of the disease, and its distal end turned in by a purse-string suture. The proximal portion, clamped to prevent leakage, is lifted out of the abdomen and when completely separated from its other attachments, the ileum is divided at a healthy point. The anastomosis is best effected, end of the ileum to the side of the ascending colon. If the ileum can not be readily brought to this portion of the colon, it can be attached to the transverse colon either end to side or side to side.

The ultimate results of excision done early are good. Van Bramaun in 14 cases had 4 free of recurrence after three years. Macewen two out of five, Wolfler two out of twelve, Czerny three out of eighteen cases. When it is considered that a number of the remaining cases were free from recurrence although less than three years, it is certain that later reports would increase the percentage of permanent cures. We have excised the cecum four times, twice for malignant disease, once for tuberculosis and once for chronic intussusception, all of the patients recovering from the operation. In the past two years we have met with five cases of cancer of the cecum. In two, extirpation of the ileocecal coil resulted in recovery, in two the extent of the disease pre-

vented a radical operation and ileocolostomy was performed for relief and in one advanced case without obstructive symptoms, the exploratory incision was closed. A brief report of the two cases in which a radical operation was performed is appended.

Case 1.—Carcinoma of the Cecum Involving the Ileocecal Juncture. Extirpation. Recovery.

J. E. R., Yankton, S. D., American, 38 years of age. Admitted to St. Mary's Hospital, Rochester, Minn., April 4, 1899. History of colicky pains in the abdomen for four years. While not severe, the pain has been persistent; during the past year it has become located in the right side. For four months a diarrhea has been persistent and he has lost 40 pounds in weight. Family history negative.

Physical Examination.—A moderately emaciated man of cachectic appearance. No evidences of disease of organs outside of the abdomen. Temperature and pulse normal. There is considerable intestinal distension and intestinal peristalsis waves can be seen and are accompanied by marked gurgling. On deep pressure in the right side an induration can be detected, evidently connected with the cecum. It is about the size of a small lemon, firm to the touch and not very sensitive. Upon the history and physical signs the diagnosis of appendicitis seems warranted and it is thought to be tubercular in origin and the obstruction due to adhesions.

On April 6 a lateral incision revealed a nodular tumor of the cecum involving the appendix and ileocecal juncture. A few enlarged glands could be felt behind the bowel. An incision through the peritoneum was made on the outer side and the cecum with the enlarged glands was lifted out of the abdomen. The vessels supplying the part were ligated with catgut. The ascending colon was divided two and one-half inches from the tumor and its distal end closed with a circular suture. The proximal end was clamped. The mesentery was progressively ligated and the ileum divided eight inches above the ileocecal valve. An attempt was made to join the end of the ileum to the side of the ascending colon but there was some tension, the divided end was therefore turned in with a circular suture. The omentum was raised and the side of the ileum six inches above its severed extremity was anastomosed to the transverse colon near the hepatic flexure with a Murphy button. A small drain was introduced into the right side and the incision closed. Recovery was uneventful. The patient was discharged May 3, 1899. He rapidly regained his usual weight and strength and is now pursuing his work in better health than for years before. Microscopic examination showed only inflammatory changes.

Case 2.—Carcinoma of the Cecum, Involving the Ileocecal Juncture. Extirpation. Recovery.

A. C. S., Maiden Rock, Wis., Scandinavian, 30 years of age. By occupation a fisherman on the Mississippi river. Admitted to St. Mary's Hospital, Jan. 6, 1901, with the following history:

For the past six months has suffered from cramps in the abdomen with a feeling of weakness. For the last three months the pain has been nearly constant in the right side, losing weight and strength, constipated. Family history good.

Physical Examination.—A man of good physique, somewhat emaciated, walks with the right thigh drawn up to relax the psoas and iliacus muscles. Temperature and pulse normal. No evidences of disease outside the abdomen. There is some tympanites. On deep pressure in the right side a small mass can be detected which is tender to the touch. A diagnosis of chronic appendicitis was made.

January 8, an intermuscular incision (McBurney) was made and a tumor involving the cecum, appendix and lower ileum was exposed. The incision was lengthened, cross cutting the deeper muscles. The peritoneum was divided outside and the cecum, appendix, ascending colon and fourteen inches of the ileum was excised, a lateral anastomosis between the lower ileum and transverse colon being effected. There was extensive adhesion posteriorly in the mesentery necessitating the extensive resection. A few small glands were found. A small drain was introduced and the incision closed. Patient discharged February 27 in good condition. The microscopic examination of the glands removed showed only inflammatory changes.

In conclusion, I would urge that every operating surgeon be prepared to excise the cecum. The early symptom may be such as to lead to the belief that an appendicitis exists and in this way a timely operation for a malignant process may result in a complete cure.

DISCUSSION IN SYMPOSIUM ON THE SURGICAL ASPECT OF CARCINOMA.*

Dr. A. C. Bernays, St. Louis—From what has been shown here we are to face an endemic of cancer. The exact figures, as Dr. Dennis read them, I do not remember, but there is undoubtedly now an endemic of cancer which we have recognized, because it has increased largely in recent years. This endemic seems to affect all classes. The question is: Will it be possible by united, collective effort to bring help, as we have done in other diseases, which we have attacked collectively in our professional efforts? Dare we hope for a curative remedy? I think not. Let us be modest. We dare to believe that by collective investigation, such as we have made in other pathologic conditions, we may gain accurate knowledge regarding the location, frequency and geographical distribution of cancer, also its mortality and length of life of patients afflicted. Upon that basis we dare hope that we may be able to exercise a sort of prophylaxis, as we now do in tuberculosis; we may confidently expect this much. But even this result will depend largely upon the success of our efforts in discovering the nature of cancer. Many men have worked upon this question. All have failed to solve the problem. I believe that only a few cases will furnish material which will be useful in our research for the parasite. I believe that not all cases of what we call cancer now—and I wish to emphasize that point here—are due to parasitic infection; some cases are undoubtedly degenerative processes, necrobiotic processes of tumors or growths developed on the basis of rudimentary tissues which we have inherited from an infinitely long line of ancestral forms of life. What we call cancer, or what we call malignant disease, consists of many different things, and the investigations, which I think will be pressed and enthusiastically continued, will show that under the head of "cancer" some quite different things are included; some undoubtedly of parasitic nature and others of embryonal or rudimentary and developmental nature. If the discoveries and conclusions of the New York investigators, under the direction of Dr. Park, are based on careful observations, they will soon be corroborated by the researches in laboratories all over the planet.

A few words on resection of the cecum. About two months ago I had an opportunity to resect a cecum in a case of cancer. I will relate it as briefly as I can, and then make a sketch of the operation. The patient was a man aged 54, who had been sent to me for operation by a good physician, with the diagnosis of chronic appendicitis. I felt a hard nodule in the right iliac fossa, but was unable positively to make a diagnosis of chronic appendicitis; nor was I able to come to the positive conclusion that there was a cancer of the caput coli, or ileo-cecal valve, as it proved to be. Deciding to operate, I opened the abdomen and found a large lump, consisting of glands; the meso-colon and the mesentery were normal. There were only a few small glands. I used the Kocher clamp and clamped off the gut and the ileum by clamping at right angles. By closing it tightly I was enabled to cut away this whole mass, and, putting my hand under it, to lift it up from the iliac "shovel." This was accomplished with scarcely any bleeding, perhaps a little from the surface from which I lifted up the mass. There was only one large artery coming down, which was tied. The ileum fortunately had a long mesentery and it was freely movable and the colon also could be turned well out of the wound. I intended to close up this hole by simply inverting the whole thickness of the bowel and closing it with a few catgut sutures, but, at that moment, it struck me

* Papers by Drs. Park and Powers published Sept. 14, 1901; Drs. Weir and Senn, Sept. 28, 1901.

that the better plan would be the Maunsell operation, inasmuch as I had here a large hole in the cecum. So I introduced a pair of forceps, bringing this piece of gut up; at this point I made an incision in the cecum, and by means of a pair of forceps brought this piece of gut together with the cecum. I was then enabled, in the very simplest manner, to sew together, just as Dr. Weir did in the resection of the rectum; I sewed the gut into the cecum by through-and-through sutures, then simply drew it out, and then put on some Lembert sutures on the outside all around, and finally closed this opening here with Lembert stitches. That finished the operation. I think you will have to admit that that method is simpler than any other method, and restores almost to the normal condition after the resection of the cecum.

DR. G. W. CRILE, Cleveland—I wish to briefly describe a method of controlling hemorrhage in operations for malignant disease of the tongue. A small screw clamp with parallel blades, protected by small pieces of rubber tubing, may be placed upon the common carotid arteries and so adjusted by the screw as to close the lumen of the vessel, thus rendering the field bloodless.

DR. W. L. RODMAN, Philadelphia—I think we are all beginning to feel that there is an accumulating amount of evidence that carcinoma is due to parasitic disease. Certain things indicate that it is due to a parasite. The very fact of its encroachment would indicate that it could not be anything but a germ. We know that carcinoma, until recently, was not a disease frequently found among the Indians and negroes, and yet, at the present time, it is practically found in both races; carcinoma of the breast in the negro is probably more common than in the white. This change must be due to a germ, and, once having started, it is likely to continue and increase. Dr. Dennis raised a very important question when he said that he had not seen a case of sarcoma of the jaw recover. In a discussion not long since, in the Philadelphia County Society, rather the opposite position was taken with regard to sarcoma of the jaw. It was held that an operation that is radical and done early is more likely to prove successful than sarcoma in any other part of the body; a very good reason was given for it at that time, viz., the fact that the mouth is a septic cavity and that suppuration results after an operation. This explains why more cures are reported on the upper and lower jaws than sarcoma in other parts of the body. I know of a case of sarcoma of the lower jaw fourteen years after operation and the upper jaw two years after operation. I fully agree with the position taken by Dr. Powers that we should cut into a tumor for diagnostic purposes; it is not only justifiable, but the best course that one can take. The little risk incurred in doing this is more than justified by the fact that it is hardly fair needlessly to remove the mammary gland of a child-bearing woman.

DR. GUSTAV FÜTTERER, Chicago—While I do not intend to discourage research in that direction, I wish to state that I have never been able to believe that parasites are or may be the cause of carcinoma. Probably the strongest reason against a parasitic cause lies in the fact that in carcinomatous metastasis the cells of the organ invaded do not become infected, and do not participate in the building up of the metastasis, which develops from the invading cells. I have first advanced this reason at a meeting of the Chicago Pathological Society, Dec. 14, 1896, and I still consider this fact of the highest importance; it is hard to conceive that such would be the case if the invading cells included parasites.

I have always adhered to Virchow's theory of irritation, and after all that I have seen, I take a firmer stand on this than ever. Friction causes no real inherent malignancy of the epithelial cells, but only an apparent malignancy. It is none other than can be explained by a greater supply of blood that is not regulated with even nearly the almost mathematical correctness which governs the nutrition of the epithelial apparatus under normal conditions. So while I do not believe in an inherent malignancy of carcinoma cells, I do believe that normal epithelial cells, through continued circulatory disturbances, become trained to indure and prosper by a condition of hypernutrition. Hand in hand with sprouting blood vessels surrounding them, the epithelial cells may invade the deeper tissues, the resistance of which has either been lessened by chronic circulatory disturbances, particularly edema, or by a reduction of the volume of blood in old age. Then they may proliferate in the deeper tissues making metastasis and causing cachexia. It may be cachexia of a different kind, as the cells retain their physiologic function more or less, according to local conditions, overloading the circulation with physiologic products. This alone will explain the different forms of cachexia, such as we find them, for instance, with carcinoma of the stomach, primary carcinoma of the liver, etc.

DR. G. B. MASSEY, Philadelphia—The last remark made by the speaker seems to me to be capable of being answered by objections against the autocytic theory, which would be evident to the biologist. For to adopt the autocytic theory of cancer we must assume that cells can change their character. We must assume that cells that have been generated as tissue cells, with a benign course or history, can suddenly, for some unknown reason, entirely change their character. No one can watch these growths for any length of time without feeling sure that there is a separate entity in that growth from the entity in the host, that there is an entity there, a separate entity, totally distinct from the man or woman on which it feeds. I wish simply to make the point that the very evident parasitic nature of cancer should attract more attention from the profession to an antiparasitic method which was brought to the attention of the Section on Practice of Medicine of this Association, at its meeting in 1897, by myself. That is a method by which the electric current is used to cause a chemical disintegration of a growth at once under ether, together with the production of a surrounding zone of sterilization; it produces a zone from an inch and a half to two inches in extent beyond where all tissues are destroyed and beyond where the demarcation commences. In this zone the physician may feel assured that a large proportion, if not all of the germs—by improved technic—may be killed without destruction of the normal tissue cells. This method has been tried in my hands in 42 cases, and I maintain that it is time for one or two other men also to try it. These 42 cases were brought mostly by physicians, most of them having been previously operated on by the knife, 23 of them died of metastases in spite of what I did, the metastases originating prior to the application. Nevertheless, 15 out of the 42 cases are living, and the great bulk of the 15 cures are of more than two years' standing; in several 7 years have elapsed since the application, and in others 5 years, without recurrence.

DR. R. H. M. DAWBARN, New York—I desire to express my cordial approval of Dr. Bloodgood's advice in favor of the most radical insistence upon extirpation of all tumors, all lumps in the breast of whatever kind. In a great many instances our patients will veto the suggestion, but that does not prevent our duty of proper advice in the case. I have been making a special study of malignant work, especially about the mouth, the regions supplied with blood by the external carotid, and next autumn I shall publish a list of about forty personal operations of that nature. Regarding the operation for cancer of the tongue: 1. The chief cause of death is shock. One chief cause of shock, as we all know, is hemorrhage. There is nothing I am more certain of—differing from Dr. Christian Fenger in this regard—than the wisdom of ligating the external carotid in every case, prior to a complete extirpation of one-half or of the whole tongue. This ligation can be done in five minutes; and, thanks to the early work of Dr. Wyeth, we now know that it is done with great safety; it makes the work done subsequently practically bloodless. We do not, then, need to do a preliminary tracheotomy. 2. If the patient does not die then, but later, what will the cause be generally? It will be sepsis, particularly that of a pneumonic nature, and due to entry of septic discharges from the mouth into the air passages. Apropos of that, I think it is wise to rub the raw surfaces in the mouth with aristol at once. If we adopt that plan, we will have surfaces that will not offensively slough. I do not pack the floor of the mouth with gauze; instead of

packing. I use very frequent irrigation with a fountain syringe. We all know that a considerable percentage of cases of tongue excision die of sepsis. I have lost several myself in my early work from septic pneumonia; these I feel sure that I could now save. The chief cause of death was the position of the patient *post operationem*. In the "International Text-Book of Surgery," in an article on this subject, there is a bit of advice which seems really dangerous; it is that as early as possible patients from whom the tongue has been excised shall be allowed to sit up. On the contrary, I know that they should always be put with the head lower than the foot of the bed, and kept there so long as there is a sloughing condition of the mouth, lest the foul saliva gravitating down the air-passages cause a "schluct-pneumonic." When there is a healthy, odorless, granulation surface, and when control of the stump of the tongue in the act of swallowing is regained, so that coughing does not show that food or drink is passing "the wrong way," then, and not before, it is wise to let the patient's head be elevated—even though this require weeks or longer. In conclusion, let me allude to a point heretofore neglected by operators, but as I believe unwisely. When just a little of the base of the tongue can safely be left attached to the hyoid bone, it is most important that this stump gain power to resume its function of closing down the epiglottis over the larynx in the act of deglutition. I do not know of any text-book that advises what I have practiced, namely, to save the long stump of the healthy twelfth (hypoglossal) nerve, making a little slit in the remainder of the intrinsic muscle of the tongue and sewing with fine catgut into this cut the end of the twelfth nerve—so that this motor nerve may, in time, control the muscle. I have felt encouraged to continue this point in the technic of the operation.

DR. A. H. LEVINGS, Milwaukee—I desire to call attention to one of the conclusions made in the classic paper by Dr. Senn, namely, regarding the development of carcinoma from epithelial cells. It was stated that all carcinomatous growths were the result of an atypical proliferation of epithelial cells from a matrix of embryonic cells, of congenital or post-natal origin. In the discussion, I desire to call attention very briefly to the histology and embryology of the enamel organ of the teeth. The enamel of the tooth is epiblastic in origin and comes from the epithelial structures lining the mucous membrane of the mouth. If we consider the embryology we find that at about the end of the second month of fetal life a proliferation of the epithelial cells in the form of a half circle and situated directly over the maxillary bones takes place. This growth of epithelial cells dips down as a solid wall into the deeper tissues beneath, or into the mesoblast. From this wall numerous pillars are given off, one for each of the deciduous and permanent teeth. The ends of these pillars become bulbous, forming the enamel of the teeth and enclosing the papillæ. During the fourth or fifth month of fetal life the tooth follicle, made up of connective tissue, encloses the enamel, cutting it off from the above-mentioned pillar. We have then within the mesoblast not only a solid wall of epithelial, embryonal cells skirting the entire area of the jaw, but also some twenty-six columns of cells given off from this wall and projecting into the still deeper tissue. This entire mass of embryonal cells has no further function and is either in part absorbed, or remains dormant and sequestered within the tissue as functionless cell nests. There is no other portion of the body in which there are anything like the same number of dormant, useless, embryonal cells sequestered within the tissues, as occurs within the jaws. It is a well-known fact that epithelial tumors, either cystic or solid, taking origin from these sequestered cells are among the rarest of pathologic curiosities. Up to the present time probably less than a half dozen, and as far as I am aware, but four have been reported. It would be a curious fact were the Remak-Cohnheim theory of the production of tumors correct in all cases, that here in the jaws where these embryonal, sequestered cells are so abundant that epithelial tumors are so infrequent. In so far as my investigation extends I am unable to satisfy myself that the Remak-Cohnheim theory of the causation of tumors is applicable to more than a small proportion of the whole.

DR. K. A. J. MACKENZIE, Portland, Oregon—The weight of evidence from the standpoint of the investigator is strongly in favor of the parasitic theory and this evidence is very strongly enforced by the clinical facts. The concurrent testimony of other investigators in foreign countries who have followed up this line of research is very significant, and the recent work of Leopold, Plimmer, and others affords apparent corroboration of the present work of Park and Gaylord. In considering the clinical evidence one is impressed with the frequency with which the disease develops in regions where there are departures from the normal, anatomic, and physiologic standards. Witness the frequency, for instance, with which the disease develops in such exposed points as the lip, tongue, breast, penis, angle of the eye, skin, chronic ulcers and cicatrices, etc., these facts being very strongly suggestive of an infection introduced from without and not acting from within the body. Within the body we find a strong analogy when we consider that the disease develops at points where the local conditions favor first irritation and subsequently infection. The pylorus, the stomach, the hepatic and splenic flexures, the rectum, the gall tracts, the pancreas, the bladder, etc., all bearing testimony to the topical tendencies of this disease and to an infective process. So apparent is the fact that the inference is just, that the development of carcinoma always predicates, 1, a departure from the anatomic or physiologic standards of the parts and 2, an infection. By parity of reasoning the hope of successful treatment must largely rest in prevention, in the early recognition of all disordered physiologic and anatomic states and their timely correction.

DR. C. A. POWERS, Denver—Dr. Bloodgood spoke of the relative frequency of breast tumors at the Johns Hopkins Hospital, giving, as I remember, a proportion of 426 cases out of 12,000 admissions, or over 3 per cent. of all admissions to the hospital. Possibly such a high ratio may be explained by the fact that the work done there on the breast has attracted to that clinic an unusually large number of breast cases. I think 3 per cent. would be much too high for us to expect as an average. Dr. Weir's operation for cancer of the rectum seems to be an admirable one; thorough, permitting an excellent inspection of the parts, with good control of hemorrhage, and offering a better chance of cure than the Kraske operation. Kraske himself says that most cases of carcinoma of the rectum have a high seat. I fail to understand from Dr. Weir whether the upper fragment comes down easily. In the Kraske operation we find a great deal of difficulty in bringing down the distal end of the upper fragment. It has been my fortune to do five Kraskes, and I look upon it, as we all must, as a dangerous operation. I think it one of the severe operations in surgery; certainly in the hands of the best operators it has a mortality of not less than 20 or 25 per cent.

DR. W. J. MAYO, Rochester, Minn., in closing—My object in preparing this paper was not to present anything new. The frequency with which operations for appendicitis are now being done, and the evidences that would induce us to operate on cases of appendicitis will lead to many early operations for carcinoma of the cecum, and we should be prepared for that. The two cases in which I succeeded—I believe in securing ultimately successful results—were both induced by a diagnosis of appendicitis. All who operate with that diagnosis ought to prepare themselves for excision of the cecum.

The Blind as Masseurs.—E. Eggebrecht of Leipsic has trained four blind women and nine blind men in the science of massage, and describes his methods and the technique in the *Ztft. f. Diät. u. Phys. Therapie*, V, 2. He believes that it is the duty of physicians to encourage this employment for the blind, not on account of pity for their misfortune, but because they are so exceptionally endowed for it by the development of their sense of touch. A writer in the *Wiener Klin. Woch.* states that the majority of physicians in Austria entirely disapprove of massage by the laity, and consider it incumbent on them to refer patients for massage to young colleagues just entering practice and waiting for clients.

ON THE GROWTH OF EPITHELIUM.*

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In the following I intend to report upon some experiments which were undertaken as a continuation of former work published in 1898, in the *Archiv f. Entwickelungsmechanik*. There are reported observations on the growth of epithelium in the coagulated blood during the healing of wounds. I found that epithelium may branch in the blood. I further gave pictures of epithelium surrounding connective tissue structures and even small particles of cartilage. As observed before, mitoses were found in the deepest rows of the epithelium, but besides these I found pictures which could only be explained as amitoses. These were usually situated in the upper rows of the epithelium. The furrows in the nuclei went so far that an entire separation of the different parts of the nuclei could be observed. Without going into the former literature, which was given in my former publication, there appeared since 1898 three papers on this subject, namely, the papers of Kromayer, Branca and Von Bardeleben.

My further investigations were undertaken: 1. To determine the situation of the blood in the growing epithelium. 2. To exclude the possibility that the blood only secondarily raised the epithelium and separated its different parts. 3. To find a means to bring about such separation of the growing epithelium from the underlying connective tissue in an experimental way, so that we might not need to rely upon accidental observations. An occasional observation was made once before by Garré, who saw that in a transplanted piece of skin a few cells were pushed down into the blood, but he did not observe any extended growth of branching epithelium into the blood. 4. To find out in a general way how frequently it was possible to separate growing epithelium from other growing tissues.

My results are the following: If epithelium penetrates into the blood it surrounds small particles of blood and includes it. We then find single blood corpuscles either included inside the epithelial cell, at the side of the neucleus, or we find them between the epithelial cells in small cavities, surrounded by a distinct membrane. Near such places we may occasionally find mitoses of epithelial cells and pictures which speak in favor of amitotic division.

We also find a larger collection of red blood corpuscles inside the epithelium. Blood corpuscles inside the epithelium did not cause the epithelial cells to become pigmented.

To bring about, if possible, a separation of the growing epithelium from the growing connective tissues, I used the following procedure: A small flap of skin was raised in the ear of the animal; at the point of insertion of the flap a second flap with the cartilage and the deeper structures were cut out with a razor and a piece of agar introduced under the cartilage. Then the skin was placed directly over the agar and the cartilage above the whole was fixed with collodium. Under these conditions a variable quantity of leucocytes is found in the agar and the surrounding tissues. The effect of softening the agar and surrounding tissues by the leucocytes makes it easy for the growing epithelium to penetrate agar and tissues.

We thus find frequently the epithelium growing directly into the agar. Not only the deepest layers of the epithelium invade the agar, but also the upper rows of the regenerating cells may grow upwards into it. New branches are frequently given off. Even single rows of cells may branch into different directions. The epithelial cells under these conditions frequently become spindle shaped.

At other places we find particles of agar surrounded by growing epithelium. Sometimes there are very few leucocytes near or inside the agar; sometimes there are a larger number present. We frequently can observe that the epithelium is not accompanied during its growth into agar by a continuous layer of growing connective tissue. One may perhaps occasionally see besides leucocytes a few cells which might be of connective tissue origin, but at other places we see the epithelium distinctly not accompanied by connective tissue. We may find mitoses in cells directly resting on agar, or inside of a mass of epithelial cells, surrounded by agar; epithelium growing into agar did not usually produce any keratohyalin, nor was there a regular formation of the horny layer. I found that with a few exceptions the epithelium began to undergo these normal changes (the formation of typical keratohyalin and of a horny layer) only after it was again in connection with well-developed connective tissue. The newformed keratin separated the agar and epithelial cells in it from the underlying tissue and the agar was thrown off after a short time. The epithelial nuclei could for some time still be seen as dark rods, situated in filaments which were the remains of the epithelial cells. Occasionally we found in epithelium situated in the agar the beginning of the formation of an epithelial pearl. Under such abnormal conditions I also saw in epithelium which had grown between agar for a longer period and which, therefore, was accompanied by connective tissue, a body very much resembling the cell inclusions seen in carcinomatous cells and by some believed to be parasites.

I found pictures of epithelium beginning to grow into the muscle tissue. The cells which are very much elongated surround the muscle fibers. The conditions necessary for that are probably the same as given above in regard to agar, namely, that there has been previously a dissolving action by leucocytes, although these latter may afterwards absolutely disappear and the epithelial cells alone may then surround the muscle fibers or the parts of cartilage. It is impossible at present to state how much the epithelial cells are aiding this process started by the leucocytes. It is also impossible at present to give with certainty an analysis of the different factors which might come into play during the growth of epithelium, which make the epithelium branch in different directions in the blood or in the agar.

Another and perhaps more satisfactory method for extending experimental studies on different tissues, which may give us the means to investigate their growth under variable external conditions, is the following: A piece of the tissue, in this case of epithelium of the skin, is entirely cut off with a razor and pushed into coagulated blood serum as it is used for bacteriological purposes. The blood serum with the included epithelium is transferred afterwards into a living animal.* After 7 or 10 days we may find that at many places the epithelium has grown inside the blood serum; rows of cells grew into different directions, epithelial cells surround particles of the blood serum, cells branched off and extended

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Pathology and Bacteriology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

* Certain necessary precautions will be described in another paper.

further into the culture medium. Frequently individual epithelial cells included some of the blood serum in vacuoles situated near the nucleus. The periphery of such cells showed repeatedly a distinct radiating striation. Occasionally such cells became even detached from the main mass of cells, they assumed a round shape, but showed even then the characteristic striation and included the blood serum near their nucleus.

There were almost no leucocytes visible at this period and over considerable areas the epithelium was not accompanied by connective tissue. Nevertheless, several mitoses could be seen in the epithelium and always in cells directly in contact or near the blood serum, just as in the ordinary epithelium the mitoses are found near the connective tissue.

The cells and nuclei were usually drawn out as if traction had taken place on the protoplasm of many cells. The cells were not massed together as it would have been expected in case the mitotic division and the pressure resulting from the increased number of cells were the only cause of the ingrowth of the epithelium. It is therefore probable that there are other protoplasmic movements at play besides that connected with the mitotic division of the cells.

In conclusion, it might be stated that during its growth the epithelium forms a mass of cells, all layers of which are equally able to grow in different directions. A distinct differentiation between different rows of these cell masses does not exist. Later on the epithelium which comes into contact with connective tissue well supplied with blood vessels forms again regular epithelium, the lowest rows producing new cells, which now undergo the changes leading to the formation of normal keratohyalin and keratin. We see that these growing cell masses do not need connections with either resting or growing connective tissue; although under the usual conditions found during the growth of epithelium, the epithelial cells are found accompanied by connective tissue. The possibility of separating the growing epithelium from other tissues might be used to subject an isolated tissue like epithelium to certain experimental conditions, as for instance, to the influence of different chemical substances and thus study the reaction of isolated tissues, other than connective tissue and leucocytes to different stimuli.

SOME CONSIDERATIONS REGARDING THE HYGIENE OF EARLY SCHOOL LIFE.*

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STOUGHTON, WIS.

The medical man's point of view regarding the hygiene and physical regimen of school life often gives rise to misunderstanding and not infrequently to the most unreasonable opposition from the pedagogue. The physician, says the pedagogue, is too materialistic, is too much occupied with the pathologic side of the child and not infrequently is biased, catering to the hysteric dilettante for the mere sake of humoring the misguided parents.

Under the head of "Mental Fatigue in School"[1] appears, among other propositions of a similar character, the following translation, from a paper by Prof. Albert Spitzner, Leipzig:

"The propositions generally advanced, that present methods of public education imperil the health of children, is not only applied to certain evils for which individual teachers or schools are called to account, but directly attack the normal foundation of a school. The censure of physicians does not refer to the harming of already sick or nervously inclined pupils, but to injury done to mentally and physically normal children, by methods and practices considered normal." Dr. Pellmann, tersely expressing himself, says, "Children work too soon, too much and badly; that is to say, under unfavorable hygienic conditions." In interpreting his meaning we are reminded of the long list of studies, the rushing through of courses, the long duration of hourly, daily, and weekly lessons of useless studies, the method of teaching, unscientific in its disregard of the laws of physiology and purely in favor of psychology, the evil of home tasks which rob children of their short periods of recreation, etc. We receive also the practical suggestion of omitting home lessons, instructing by means of observation lessons, instituting a beneficial interchange of physical and mental occupation, etc.

Further on the paper continues: "It may be truthfully said that the judgment of the medical profession on these matters is not based on an actual, exact, and technical examination of the methods employed, but on inference from facts connected with nervous diseases of children." Psychologic pedagogy must protest against such arguments.

Again, this same report says: "In view of what has been said, the doctrinary foundation upon which the medical profession bases its opinion of psychic and in part physiologic conditions and processes, can not be accepted by teachers who must protect their profession against medicine and its encroachments; that is to say, must place psychologic pathology and pedagogic hygiene and therapeutics in so clear a light that the facts connected with the intellect and the development of children be studied in a manner consistent with their real meaning and pedagogical observation."

This represents briefly the case of the routine pedagogue versus the physician, as regards the school curriculum and its influence upon the development of the child. We may, by reason of our purely materialistic tendencies, have some difficulty in grasping the exact meaning of pedagogic therapeutics and hygiene, as well as psychologic pathology, but otherwise there is certainly no ambiguity in stating the case.

It is perhaps true that the physician is often too radical, and that occasionally when in doubt, liable to err on the side of physical well being. Occasionally he may also be guilty of humoring the wishes of an hysterical parent. Errors of this sort are a necessary concomitant of the imperfections and shortcomings of human reason and human nature. When, however, we study the basis of such criticisms as have been offered by Hasse, Pellmann, Nathan Oppenheim, Francis Warner, Bowditch, J. M. Rice and others, whose reasons are not based upon inference, but upon the data—possibly yet too meager—furnished by physiologic and anthropometric observations. From data already at our disposal, it is clearly evident, 1, that mental and physical abnormalities exist in school children and, 2, that these abnormalities are always aggravated, if indeed they are not actually produced by pedantic, pseudo-educational methods.

As a matter of fact, the physician's capability and wisdom in educational matters has always been acknowl-

*Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: Drs. H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

1. Report of Commissioner of Education, 1895-6, p. 1191.

edged in the most difficult department of education, that of the mentally and physically defective, i. e., idiots, imbeciles, the feeble-minded and the defective classes. When, indeed, reason becomes deranged he is called upon to restore it to its normal balance, which he often succeeds in doing, not by the administration of medicine, but by the adaptation of wise training and the judicious application of the laws of physical and mental hygiene. It appears, therefore, eminently proper for the physician to interfere in matters relating to school hygiene, even though this may involve the criticism of the curriculum and also some of the more absurd conclusions of psychologic pedagogy.

Very briefly and imperfectly epitomized, the general import of the medical protests against the prevailing public educational methods may be summarized as follows:

1. We insist that there is no evidence by which educational values can be determined, except through the study of material manifestations transmitted through the nervous system. Thought and mind are immaterial, but we have no way of measuring, or estimating the value or extent of their action, except through the evidences of material production. For this reason we are forced to study the physical and physiologic changes produced in the body as the result of psychologic activity.

2. Education produces nothing new in the child; it simply unfolds and brings into intelligible activity the latent forces of the nervous system. Most of us agree with Prof. H. H. Donaldson,[2] who says, "Education consists in the modification of the central nervous system."

3. One of the most important and essential prerequisites necessary for a good education is good nutrition. Psychologically, mind is immaterial, but physiologically, we are forced to the conclusion that sane thought and vigorous intellectual activity is possible only through the medium of brain cells that are well nourished and physiologically active. It appears, therefore, entirely reasonable and logical to conclude that all educational methods which ignore the physiologic evolution of the child, are faulty and open to criticism, from the physiologic and hygienic standpoint. As a matter of fact, we not only ignore the most obvious requirement of practical hygiene in our school curriculum, but we insist upon a uniformity of educational training which is physiologically as absurd as it is impossible of practical application. "In fact," says Dr. Nathan Oppenheim,[3] "I know of no harder experience, no more trying ordeals than what a child at this time undergoes. His experiences in the school environment are designed to encourage irritation and waste of nerve and muscle tissue; the circumstance of instruction are useful for deadening, instead of encouraging, a normal standard of intellectual development."

When we consider how variable is the inherent mental capacity of children, in fact so variable and so difficult to determine that we find it almost impossible to draw a line of demarcation between the normal and the abnormal child; when we consider that this constant variability to respond to educational stimuli, so manifest at all the different stages of development, it becomes evidently absurd to attempt to lay out a uniform system of mental training applicable to all alike, exclusive of pronounced idiots and imbeciles. That this method does injury to a great many children is not only the testimony of physicians, but also of a great many progressive educators and thinkers as well.

Regarding the influence of school life upon normal, healthy children, Dr. Francis Warner, London, says:

"I do not think that the boy or girl at the older ages of school life, who is free from developmental defects of any kind and shows no abnormal nerve signs or indications of delicacy, i. e., the normal child, is very likely to fall into ill health or a nervous condition if a wisely conducted training at school is continued. Of the 100,000 children that I have examined at schools, 80 per cent. of the boys and 84.10 per cent. of the girls were normal and not reported as dull mentally. It is, however, far otherwise with the children who have some defect; anemia, nervous disturbances or hysteria may become manifest as adolescence approaches, especially in girls. When such becomes established, particularly if anemia and nerve disturbance occur together, a long period of ill health may result."[4]

His table of statistics shows, of all cases with developmental defects at all ages, 38.4 per cent. of the girls, and 49.9 per cent. of the boys were mentally dull. Of all dull children, at all ages, 57.6 per cent. boys and 52.6 per cent. girls also presented abnormal nerve signs. This appears to indicate that about 18 per cent. of the children examined have some developmental defect, and that of these defectives 44 per cent. are mentally dull.

It is impossible, by reason of insufficient data, to form a reasonable, accurate estimate of the existing number of defective children which imperatively demand special school training. In Germany and England, where special classes are maintained for defective children, they average about 1 per cent. of the school population. Dr. Charles F. Folsom[5] gives the number of pronounced intellectual idiots and imbeciles as 1 to 650 of population. That we have in our public schools a very large percentage of mentally abnormal and physically defective children who require segregation and special training is evident from the physiologic and anthropometric examinations made in many of our cities.

I have briefly referred to this subject of the dull, the backward and the defective child, to emphasize the practical value of regular, periodic, physiologic examination of school children. Such examinations would disclose incipient cases, classified by teachers as dull, stupid, backward, disorderly or incorrigible, when in reality the child is the subject of some developmental abnormality, which makes ordinary school work intolerable to him. The early discovery of these cases and their segregation for special training is one of the important problems of public school life. Pupils of this character are a drag and a danger to the normal child. I am fully aware of the practical difficulties to be met in a solution of this question; but that these are not insurmountable has been shown by the experience in some of the European countries.

The study of the defective, i. e., the idiot, the feeble-minded, and persons afflicted with sensory aphasia resulting from an injury to the central sensory nerve cells, has made it possible for us to understand in a measure how ideas are built up during the developmental period. The fact that these observations are

2. Growth of the Brain, p. 338.
3. Development of the Child.
4. "The Study of Children," Francis Warner, MacMillan & Co., p. 190.
5. Pepper: System of Med., vol. v, p. 140.

based upon changes that may be termed pathologic does not diminish their practical value.

The mentally defective represents arrested brain nutrition, partial or total, at an early period of development. It was early shown by Dr. Sequin and others that a partial restoration of the dormant nerve cells of the idiotic brain could be effected by the application of judicious training along the lines of primitive development. The recognition of this principle has done wonders for the idiot, so that he has not only been improved, but even educated and cured. These well-known facts are referred to because they clearly indicate that the early school training of the child is largely a problem of localization of stimuli at different points in the nerve centers. This stimulation, if it is not prolonged to such an extent as to produce fatigue, promotes nutrition and tends to the reproduction of the action after a period of rest.

That we have vastly overrated the intellectual value of this formal training to the child there can be no doubt. That we have carried it to unreasonable extremes and burdened it with artificial, psychologic, and other incomprehensible nonsense is undeniable.

Returning again to the normal child, it is a mere truism, often enough reiterated, to state that our schools should have the benefit of good hygiene, good light, proper heating, ventilation and seating. Regarding these matters there is general agreement so that improvements in these departments are simply a matter of financial and mechanical detail. When, however, we come to the more vital and difficult problem of the school curriculum and the general methods of training to be adopted in early school life, viz., the number of hours that should be given each day to purely mental tasks, and the age at which school life should begin, there is very general disagreement between the physician and the routine pedagogue.

When we insist upon the fact that well-known physiologic studies show that the child is an exceedingly immature and delicate animal, undergoing important developmental changes having no analogoues in the adult; that his plastic tissues and delicate nerve cells are easily warped and injured by long-continued mental or physical efforts; when we report that children have actually been injured by injudicious school work, and that for this and other reasons, we favor shorter hours, more attention to the physical side of the child, more nature study out of doors in contact with actual natural objects, less of text-books and less of the exhaustive rote drill, which simply burdens the memory; when we insist upon these things as a natural outcome of the observations of the laws of development, we are told that these are questions of psychologic pedagogy, which must be settled by the pedagogues themselves. While it is true that the practical details must be left to the teachers, it does not follow that they are to control absolutely the principles upon which we desire to have our children educated. This would be equivalent to saying that we, as physicians, should have absolute control over the treatment of our patients, irrespective of the consent of the patient and his family. The absurdity of such a proposition is still more apparent when we consider the fact that the pedagogues disagree on both diagnosis and treatment.

As regards the claim that physicians base their criticism upon inference, it can be very easily shown that this is not the fact. As an illustration, I submit the following case:

O. N. is aged nearly 10 years, at the opening of school, September, 1900. Stature, weight and development are normal. There are no physical defects, unless left-handedness can be so called. He has attended public school since 7 years of age. Mental faculties are good, except a little slow to learn to repeat texts from memory. The daily attendance at school from 9 a.m. to 12; and from 1:15 to 4 p.m. At the opening of the school year this boy is in good flesh, with nutrition, sleep, appetite and digestion good, presenting in every way the physical features of a normal, vigorous boy. After some months of school each year he gradually grows thinner, becomes restless, nervous, fidgety and shows dark lines under the eyes. Toward the end of the school year these symptoms increase, the nervousness increases, digestion and nutrition are disturbed. He talks in his sleep, gets out of bed at night, wandering about the room, talking about his examples and his examinations. During the summer vacation, which lasts about three months, the abnormal physical symptoms gradually disappear, physical vigor is restored, the nervousness disappears and sleep becomes quiet and peaceful. This result occurs without medical treatment or change in the environment, except the omission of school work.

Now, is it mere inference when I say that the abnormal physical disturbances in this case are due to the fatigue produced by faulty educational methods? I have at two different periods of three months each taken this boy out of school and placed him under private instruction, with the result that he would accomplish fully as much intellectually in two hours' instruction per day as he did in six hours at school.

That cases of this sort are of common occurrence is well known to every observant practitioner. That injury is done in these cases is undeniable. That these abnormal consequences of pseudo-educational methods can and must be prevented, without detriment or hindrance to the child's intellectual development, is unquestionable.

Granted that our diagnosis is correct, rational preventive treatment would appear to be along lines already indicated, namely, the shortening of hours of the primary school to, say, one hour in the forenoon and one hour in the afternoon. If more time is to be taken up at school, it should be devoted to Slöyd or manual training, together with the study of Nature and natural life and its activities, as it exists in the child's environment.

That this is practically possible, and that the results are exceedingly favorable, has been shown by the experience at Girard College and other similar institutions. The elementary school of the University of Chicago, under Professor John Dewey, is a most excellent demonstration along the same lines.

Regular periodic medical inspection, which should include physiologic and anthropometric examination of the school-children, should be a requirement in all public schools. These examinations would not only furnish valuable physiologic and anthropometric data, but would disclose cases of infections and other communicable diseases. They would also detect mental and physical defects—stigmata—not readily recognized by parents and teachers. These children with marked mental and physical abnormalities, developmental defects, or stigmata, should be segregated for special training. Every town with a school population of from 800 to 1000 will have a sufficient number of children of this sort to fill a room, which should be in charge of a per-

son having the exceptional qualifications necessary for success in this kind of work.

DISCUSSION OF PAPERS IN SYMPOSIUM ON SCHOOL HYGIENE.*

DR. C. F. WAHRER, Fort Madison, Iowa—The series of papers on backward children showed a difference of opinion as to where the line of demarcation is to be placed between backward and normal children, and again between backward and defective children. In one of the papers appears the suggestion that for these backward children special schools should be maintained. This would be placing upon these unfortunate children a stigma which they do not deserve. To take a child who is pronounced to be backward by a teacher who has not made a special effort to develop the latent mental powers of the child, and place it in such special school seems to me entirely wrong. The best talent of the teacher should be brought to this work of developing the mental powers. A child may be backward only when forced to go in a direction counter to his natural trend, and prove to be a genius when allowed to develop in his proper direction.

DR. SHELLY, of Kansas—It seems that where a child under 10 or 12 years of age in a country school is brought into contact with a child in a city school it is found that the country child surpasses the city child. If anyone else has made this observation I should like to know it.

DR. CLIFTON SCOTT, Des Moines—I do not think that the observation made by the last speaker is correct. I observed in one school that the country boys easily became leaders in their classes but that many of the "town" boys did just as well. It was only the boys from the country who had a special ambition to get a good education, and who were earnest in their work that came to the school, and this in itself would explain the difference, as it is not fair to compare these select few from the country with the city boys as a whole. The reason that Austin Flint was the greatest physiologist in this country was because he had specially good opportunities in early life. Much depends upon these early advantages, though I would not have it understood that I believe in crowding studies upon young children. However, the disadvantages from the loss of good, early opportunities can never be overcome.

DR. EDWIN ROSENTHAL, Philadelphia—In our city we have a wonderful institution, the Girard College. The plan adopted there is to teach the scholar aged from 6 years upward. Occasionally they meet with children who can not be taught, and all that they have been able to do with these is to make farmers of them.

DR. JAMES WORK, Elkhart, Ind.—We have had papers presented this afternoon from so many different States that it is evident that the subject commands a very general interest. I infer from this that there must be a widespread defect in our school system, or else that we must be a degenerate race. I am of the opinion that the classification in our schools according to intellect is not carried out sufficiently, hence the studies are not well adapted to the individual needs of the pupils. I was much interested in what Dr. Darnall said about the ill effects of closely-fitting clothing, for, I believe it is a factor of considerable importance. In dressing children it is important to secure equal warmth and equal pressure when selecting their clothing. I am satisfied that physicians as a rule are not sufficiently emphatic in impressing upon parents, who have the greatest interest in our schools, the importance of the pupils attending to the organs of elimination. These organs are the bowel, skin, kidneys and lungs. One must expect a child to be dull if it goes to school daily without having had a proper evacuation of the bowel, or if baths are not had two or three times a week. Too, some of us do not understand the first principles of preparing food for children. The great need in most of our schools is that we have trained mothers at home.

DR. A. W. WILMARTH, Chippewa Falls, Wis.—Mention has been made of the establishment of schools for backward children. Such schools have been already established in Providence and in Philadelphia. It would be well if teachers could give more time to individual pupils, but this is utterly impossible in the present state of our schools. Some provision must be made for these children.

DR. B. R. SHURLY, Detroit—It seems to me that one remedy is to be found in giving medical advice to the school board. Every such board in our larger cities employs legal counsel, yet, so far as I know, medical advice and supervision in our schools are sadly neglected. Along this line we certainly have work to do which will prove of great advantage to children, and particularly to those who are backward.

DR. W. T. LEARNED, Fall River, Mass.—I have been interested in this subject since the rearing of my first-born child without his mother. I followed out the plan then in vogue of giving two waters and one milk, but finding that he did not do well I soon increased the proportion until the whole milk was given, and then the improvement was marked. I made the interval three hours, and the quantity that which the child could digest and be hungry by the time of the next feeding. This resulted in natural development. His school work began between the age of 11 and 12, at which time he weighed about 100 pounds. Field work was made a part of his education, and at the age of 18 he weighed 185 pounds. At the age of 21 he entered a university to study law, and passed with honor at the end of one, instead of two years. This picture is presented, not to show that there was anything unusual about the boy, but to emphasize what can be done by an entire freedom from cramming and the maintenance of good health. A moderate amount of brain work and the determination to do something constitute, in my opinion, the best education that we can give our boys and girls. I am totally opposed to the custom of putting a little one of 3 years in a kindergarten and keeping him in school until a diploma is presented as evidence of education. It seems to me that there is no greater defect than that of so drilling and perfecting children in tuition that they can get a living without work.

DR. J. NOER, Stoughton, Wis.—I wish to emphasize that cases like the one I reported are common. By taking a child out of school and placing him under a private tutor for two hours a day he can accomplish just as much as in six hours at school, while at the same time the nervous symptoms will disappear. I fully concur with Dr. Rosenthal that the method pursued in Girard College is an ideal one. An experiment along the same line is now going on in Chicago, in the Elementary School of the University of Chicago, in charge of Professor John Dewey. It seems to me that this opens up a great field for improvement in the education of young children. I have given this subject considerable attention as a physician and as a member of a school board, and I can not resist the conclusion that there is altogether too much pressure used in conjunction with the early education of the growing child. The physician has a duty to perform in this matter and he ought to use his influence for improvement. He should also be prepared to give an intelligent explanation of the physiologic side of this question to teachers and parents.

* Papers by Drs. Baker, Wilmarth, Makuen and Wahrer published Oct. 12, 1901.

Tuberculosis as a Professional Disease.—The French law on industrial accidents is being revised, and one of the amendments proposed urges that tuberculosis be included in the list of professional affections, and that the latter should be regarded as industrial accidents and entail the same responsibility on the proprietor of the establishment. The *Progrès Medical* observes that if this amendment could be adopted the prophylaxis of tuberculosis in large cities would be immeasurably promoted. The victims of professional affections, it states, are more deserving of interest than the victims of industrial accidents, as the latter are frequently due to some imprudence on the part of the workman, while a professional affection is almost invariably the result of the negligence of the proprietor to provide sanitary conditions or to his insisting upon the use of a poisonous substance, because it is cheaper, when a harmless substitute is available. To include tuberculosis among the professional diseases, it adds, and to enforce the penalties, would do more for actual progress than twenty anti-tuberculosis congresses.

THE OFFICIAL REPORT ON THE CASE OF PRESIDENT M'KINLEY.

SURGICAL HISTORY.

President William McKinley was shot, by Leon F. Czolgosz, in the Temple of Music, at the Pan-American Exposition, Buffalo, N. Y., at about 7 minutes past 4 on the afternoon of Friday, September 6, 1901. Two shots were fired. One bullet struck near the upper part of the sternum, and the other in the left hypochondriac region. The President was immediately conveyed to the Emergency Hospital on the Exposition grounds by the motor ambulance, where he arrived at 4:18. Dr. G. McK. Hall and Mr. Edward C. Mann, medical student, of the house staff, were in charge of the ambulance, Medical Student T. F. Ellis being the driver.

On arriving at the hospital, President McKinley was at once placed upon the table in the operating room and undressed. During the removal of his clothing a bullet fell out and was picked up by Mr. Ellis. Dr. Hall placed a temporary antiseptic dressing over the wounds, and Mr. Mann ordered a nurse to administer 0.01 gm. of morphin and 0.002 gm. of strychnin hypodermically.

Dr. Herman Mynter, who had been telephoned from police headquarters to report immediately at the Exposition hospital, was the first surgeon to arrive, at 4:45 o'clock. At that time Drs. P. W. Van Peyma and Joseph Fowler, of Buffalo, and Dr. Edward Wallace Lee, of St. Louis, were present. Dr. Mynter brought with him Dr. Eugene Wasdin, of the United States Marine-Hospital Service.

Dr. Mynter inspected the President's wounds, and immediately saw their serious nature. He told the President that it would be necessary to operate, and at once set about making preparations, aided by the house staff and nurses and Dr. Nelson W. Wilson, Sanitary Officer of the Exposition, who at that time assumed charge of the hospital in the absence of Dr. Roswell Park, the Medical Director of the Exposition. The President's pulse on the arrival of Dr. Mynter was 84; he had no particular pain in the abdomen, and no apparent loss of liver dulness. He was evidently slightly under the influence of the morphin.

Dr. Matthew D. Mann arrived at the hospital at 5:10 p. m., having been telephoned for by Mr. John C. Milburn. He was followed, five minutes later, by Dr. John Parmenter.

An examination was at once made, followed by a short consultation between Drs. Mann, Mynter and Wasdin, which resulted in the decision to operate at once. The necessity for the operation was explained to President McKinley, and he gave his full consent. Immediate operation was decided upon because of the danger of possible continued internal hemorrhage and of the escape of gastric or intestinal contents into the peritoneal cavity, and because the President's pulse was getting weaker. Moreover, the daylight was rapidly failing. Dr. Roswell Park, who, by virtue of his office, had he been present would have performed the operation, was at Niagara Falls, and although a special train had been sent for him, it was uncertain when he would arrive.

Dr. Mann was selected to do the operation, with Dr. Mynter as his associate, by the common consent of the physicians present and at the request of Mr. Milburn, president of the Pan-American Exposition, who stated that he had been requested by President McKinley to select his medical attendants. Dr. Mann selected Drs. Lee and Parmenter as assistants.

At 5:20 Dr. Mann directed the administration of ether to President McKinley, and requested Dr. Wasdin to administer it. Ether was chosen as being, on the whole, the safer anesthetic. While the anesthetic was being given the surgeons who were to take part in the operation prepared their hands and arms by thoroughly scrubbing with soap and water and immersing them in a solution of bichlorid of mercury.

The operation began at 5:29. Dr. Mann stood upon the right-hand side of the patient, with Dr. Parmenter on his right-hand side. Dr. Mynter stood upon the left-hand side of the patient, and on his right was Dr. Lee. To Drs. Parmenter and Lee were assigned the duties of sponging and the care of the instruments. Dr. P. M. Rixey, U. S. N., President McKinley's family physician, having been detailed by the President to accompany Mrs. McKinley to the Milburn home, did not arrive until 5:30, when he gave very efficient service by guiding the rays of the sun to the seat of the operation by aid of a hand-mirror, and later by arranging an electric light. Dr. Roswell Park arrived just as the operation on the stomach was completed, and gave his aid as consultant. Mr. E. C. Mann had charge of the needles, sutures and ligatures. Mr. Simpson, medical student, was at the instrument tray.

The nurses, under the charge of Miss A. C. Walters, superintendent of the hospital, were Miss M. E. Morris and Miss A. D. Barnes, with hands sterilized; Miss Rose Baron, Miss M. A. Shannon and Miss L. C. Dorchester, assistants, and Miss Katharine Simmons attending the anesthetizer.

Besides those immediately engaged in the operation, there were present Drs. P. W. Van Peyma, Joseph Fowler, D. W. Harrington and Charles G. Stockton, of Buffalo, and Dr. W. D. Storer, of Chicago.

THE OPERATION.

President McKinley took the ether well, and was entirely under its influence in nine minutes after the beginning of the anesthetization. The abdomen was carefully shaved and scrubbed with green soap, and then washed with alcohol and ether and the bichlorid solution.

Inspection showed 2 wounds made by the bullets. The upper one was between the second and third ribs, a little to the right of the sternum. The use of a probe showed that the skin had not been penetrated, but that the bullet had probably struck a button or some object in the clothing which had deflected it. The lower wound made by the other bullet—a 32-caliber—was on a line drawn from the nipple to the umbilicus. It was about half-way between these points, and about 5 cm. to the left of the median line. A probe showed that this wound extended deeply into the abdominal walls, and that the direction was somewhat downward and outward.

An incision was made from the edge of the ribs downward, passing through the bullet wound and nearly parallel with the long axis of the body. A deep layer of fat was opened, and followed by incision of the fascia and muscles to the peritoneum. After cutting through the skin, a piece of cloth, undoubtedly a bit of the President's clothing, was removed from the track of the bullet, a short distance below the skin.

On opening the peritoneum, the finger was introduced and the anterior wall of the stomach palpated. An opening was discovered which would not quite admit the index finger. This opening was located near the greater curvature of the stomach, and about 2 cm. from the attachment of the omentum; its edges were clean-cut and did not appear to be much injured.

The stomach was drawn up into the operation wound, and the perforation very slightly enlarged. The finger was then introduced and the contents of the stomach palpated. This was done to see if the stomach contained food, and also with the hope that possibly the bullet might be in the stomach. The stomach was found to be half-full of liquid food, but no evidence of the ball was discovered. In pulling up the stomach a small amount of liquid contents escaped, together with a good deal of gas. The tissues around the wound were carefully irrigated with hot salt solution and dried with gauze pads. The perforation in the anterior stomach wall was then closed with a double row of silk suture (Czerny-Lembert). The sutures were not interrupted with each stitch, but 4 stitches were introduced before the ends were tied. The loop was then cut off and the suture continued. About 8 stitches were used in each row. The silk used was fine black silk, the needle being a straight, round sewing needle.

In order to examine the posterior wall of the stomach, it was necessary to enlarge the incision, which now reached about 15 cm. in length. The omentum and transverse colon were

pulled well out of the abdomen. The omentum was enormously thickened with fat and very rigid. In order to reach the back wall of the stomach, it was necessary to divide about 4 inches of the gastrocolic omentum, the cut ends being tied with strong black silk in 2 masses on each side. In this way the stomach could be drawn up in the operation wound, and the bullet wound in its posterior wall reached. This opening was somewhat larger than that in the anterior wall of the stomach, and had frayed and blood-infiltrated edges. Its exact location was impossible to determine, but it appeared to be near the larger curvature.

This opening was closed in the same way as the anterior wound, but with great difficulty, as the opening was down at the bottom of a deep pocket. A short curved surgical needle was necessary here. Little or no gastric contents appeared around this opening, but after it had been closed the parts were carefully irrigated with hot salt solution.

The operation on the stomach being now finished, Dr. Mann introduced his arm so as to palpate carefully all the deep structures behind the stomach. No trace of the bullet or of the further track of the bullet could be found. As the introduction of the hand in this way seemed to have a bad influence on the President's pulse, prolonged search for further injury done by the bullet or for the bullet itself was desisted from. The folds of the intestine which had been below the stomach were inspected for injury, but none was found. The entire gut was not removed from the abdomen for inspection, as the location of the wound seemed to exclude its injury. To have made a satisfactory search for wounds in the President's back, it would have been necessary to have entirely eviscerated him. As he was already suffering from shock, this was not considered justifiable, and might have caused his death on the operating table.

Before closing the abdominal wound, Dr. Mann asked each of the surgeons present, whether he was entirely satisfied that everything had been done which should be done, and whether he had any further suggestions to make. Each replied that he was satisfied. The question of drainage was also discussed. Dr. Mynter was in favor of a Mikulicz drain being placed down behind the stomach-wall. Dr. Mann, with the concurrence of the other surgeons, decided against this, as being unnecessary.

As the last step in the operation, the tissues around the bullet track in the abdominal wall were trimmed, in order to remove any tissue which might be infected. The abdominal wound was then closed with 7 through-and-through silkworm-gut sutures, drawn only moderately tight, the superior layer of the fascia of the rectus muscle being joined with buried catgut. The edges of the skin were brought together by fine catgut sutures. Where the bullet had entered there was slight gaping of the tissues, but it was not thought advisable to close this tightly, as it might allow of some drainage. The wound was then washed with hydrogen dioxid and covered with aristol powder and dressed with sterilized gauze and cotton, which were held in place with adhesive straps. Over all was put an abdominal bandage.

The President bore the operation very well. The time from the beginning of the administration of the anesthetic until its discontinuance was exactly an hour and 31 minutes; the operation was completed at 6:50 p. m., having lasted from the time of the first incision, an hour and 21 minutes. At the beginning of the operation President McKinley's pulse was 84. At 5:38, 0.002 gm. of strychnin was administered hypodermically. At 5:55 the respiration was 32 and the pulse 84—both good in character. At 6:09 the pulse was 88. At 6:20 it was 102, fair in character; respiration 39. At 6:22, 1.50 gm. of brandy was administered hypodermically. At 6:48 the pulse was 124, the tension good but quick; respiration 36. At 7:01, after the bandage was applied, the pulse was 122 and the respiration 32. At 7:17, 0.004 gm. of morphin was administered hypodermically.

At 7:32 the patient was removed from the hospital in the ambulance. Dr. Rixey asked Drs. Park and Wasdin to go in the ambulance as his duty called him to go at once to inform Mrs. McKinley of her husband's condition and to prepare a room for his reception. Drs. Mann and Mynter, with friends of the President, followed in carriages immediately after. President McKinley had not then recovered from the anesthetic. He bore the journey to Mr. Milburn's house exceedingly well, but it was found necessary to give him a small hypodermic injection of morphin during the transit, as he was becoming very restless. On arrival at the house of Mr. Milburn, 1168 Delaware Avenue, he was removed from the ambulance on the stretcher, and carried to a room in the northwest corner of the house, where a hospital bed had been prepared for him.

REMARKS ON THE OPERATION, BY MATTHEW D. MANN, M.D.

The difficulties of the operation were very great, owing partly to the want of retractors and to the failing light. The setting sun shone directly into the room, but not into the wound. The windows were low and covered with awnings. After Dr. Rixey aided us with a hand mirror, the light was better. Toward the end of the time a movable electric light with reflector was put in use. The greatest difficulty was the great size of President McKinley's abdomen and the amount of fat present. This necessitated working at the bottom of a deep hole, especially when suturing the posterior wall of the stomach.

The operation was rendered possible and greatly facilitated by a good operating table and the other appliances of a hospital, and by the presence of many trained nurses and assistants. Still, the hospital was only equipped for minor emergency work, and had but a moderate supply of instruments. Unfortunately, when called I was not told what I was wanted for, and went to the Exposition grounds entirely unprepared. Dr. Mynter had his large pocket case, the contents of which were of great use.

As has already been noted, further search for the bullet was rendered inadvisable by the President's condition. The autopsy shows that it could not have been found, and that the injuries inflicted by the bullet after it passed through the stomach were of such a nature as to render impossible and unnecessary any further surgical procedure. A bullet after it ceases to move does little harm. We were often asked why, after the operation, we did not use the *x*-ray to find the bullet. There were several reasons for this. In the first place, there were at no time any signs that the bullet was doing harm. To have used the *x*-ray simply to have satisfied our curiosity would not have been warrantable, as it would have greatly disturbed and annoyed the patient, and would have subjected him also to a certain risk. Had there been signs of abscess formation, then the rays could and would have been used.

My reason for not draining was that there was nothing to drain. There had been no bleeding nor oozing; there was nothing to make any discharge or secretion; the parts were presumably free from infection, and were carefully washed with salt solution. As there was no peritonitis and the abdomen was found postmortem to be sterile, we may safely conclude that no drainage could have been provided which would have accomplished anything. My experience teaches me never to drain unless there is a very decided indication for it, as a drain may do harm as well as good.

In conclusion, I wish to thank all the gentlemen who so kindly and skilfully assisted me. They were all surgeons of large experience in abdominal surgery, and their aid and advice were most valuable. Especially I wish to acknowledge my great obligation to my associate, Dr. Mynter. Not only was he an assistant, but he was much more, and helped me greatly by his skill and, as a consultant, with his good judgment and extensive knowledge of abdominal work. Although called first, he waived his claim, and generously placed the case in my hands, willingly assuming his share of the responsibility.

The anesthetic was most carefully administered by Dr. Wasdin, and the knowledge that he had charge of this very important duty relieved me of any anxiety on that score.

In the eventful week that followed the operation, Dr. Park and Dr. McBurney were towers of strength in helping to decide the many difficult questions which came up.

Dr. Rixey was in constant charge of the sick-room, aided later by Dr. Wasdin, who was detailed for this special duty. Both were unremitting in their care, and faithful to the end. Dr. Stockton helped us in the last 3 days with the highest skill and best judgment.

Never, I am sure, under like circumstances, was there a more harmonious or better-agreed band of consultants. That our best endeavors failed was, I believe, no fault of ours; but it must be an ever-living and keen regret to each of us, that we were not allowed the privilege of saving so noble a man, so attractive a patient, and so useful a life.

THE AFTER-TREATMENT.

When put to bed the President was in fair condition: Pulse, 127; temperature, 100.6 degrees; respiration, 30. The nurses on duty were Miss K. R. Simmons and Miss A. D. Barnes, from the Emergency Hospital. Soon after his arrival, at 8:25, he was given morphin, 0.016 gm., hypodermically. There was slight nausea. The pulse soon improved. During the evening the patient slept at intervals, vomiting occasionally, but rallied satisfactorily. A slight discoloration of the dressings was noted at 10:45. There was occasional and slight pain. Ninety cc. of urine was voided, and an enema of salt solution given and retained.

SECOND DAY, SATURDAY, SEPTEMBER 7.

After midnight the patient slept a good deal; he was free from pain and quite comfortable.

At 6 a. m., the temperature was 102; pulse, 110; respiration, 24.

Gas in large quantities was expelled from the bowels. A saline enema was given as before. Miss Simmons and Miss Barnes were replaced by Miss Maud Mohan and Miss Jane Connolly. Miss E. Hunt, of San Francisco, Cal., Mrs. McKinley's nurse, also rendered assistance, and Miss Grace Mackenzie, of Baltimore, Md., arrived September 9, and was detailed for regular duty. P. A. Eliot, J. Hodgins and Ernest Vollmeyer, of the U. S. A. Hospital Corps, were detailed as orderlies.

During the forenoon, 0.01 gm. of morphin was administered hypodermically.

At 1:15 p. m., a saline enema of 500 cc. was given. As the pulse was rising, 0.06 gm. of fluid extract of digitalis was injected hypodermically.

The President rested quietly until 6:30 p. m., when he complained of intense pain in the pit of the stomach, and was given 0.008 gm. morphin sulphate hypodermically. He was very restless, but after being sponged rested again.

At 6:30 p. m., the pulse was 130; temperature, 102.5; respiration, 29.

During the day the digitalis, morphin and saline enemas were kept up at regular intervals; 4 gm. of somatose were added to the water at 10:30 p. m. At 11:15 p. m. the President passed from the bowels 240 cc. of a greenish colored fluid and some particles of fecal matter.

The total amount of urine for 24 hours was 270 cc.

FIRST URINALYSIS, BY DR. H. G. MATZINGER.

Quantity	30 cc.
Color	dark amber
Reaction	strongly acid
Urea	0.028 gm. per 1 cc. of urine
Albumin	a trace
Phosphates and chlorids	normal
Sugar	none
Indican	very small amount

Microscopic Examination.—The sediment obtained by centrifuge shows a large amount of large and small epithelial cells with some leucocytes and occasional red cells. There is a comparatively large number of hyaline casts, principally small, with some finely granular ones; also an occasional fibrinous one. The amount of sediment is large for the quantity of urine submitted. There were no crystals in the sediment.

THIRD DAY, SUNDAY, SEPTEMBER 8.

During the early morning the President slept a good deal, but was restless, and at times confused and a little chilly. On the whole, he passed a fairly good night.

He expelled a little gas and brown fluid from the rectum. The digitalis was continued, and at 7:45 a. m., 0.002 gm. of strychnin was given hypodermically. At 8:20 a. m. he was clear and bright, with the pulse strong and of good character.

The wound was dressed at 8:30, and found in a very satisfactory condition. There was no indication of peritonitis. Pulse, 132; temperature, 102.8; respiration, 24.

The dressing on the wound was changed because there was some exudation. The bullet track was syringed out with hydrogen dioxid. There was very little foaming, and there were no signs of pus.

At 10:40 a. m., following an enema of epsom salts, glycerin and water, he had a small stool with gas, and another at noon. He was less restless and slept a good deal.

At noon Dr. Charles McBurney joined the medical staff in consultation, having been summoned by Dr. Rixey.

Bulletin 14, 12 m.—The improvement in the President's condition has continued since the last bulletin. Pulse, 128; temperature, 101°; respiration, 27.

During the day he continued to improve; he slept 4 or 5 hours and his condition was satisfactory.

At 4:45 p. m. he was given a teaspoonful of water by the mouth; also an enema of sweet oil, soap and water. He passed slightly colored fluid with some little fecal matter and mucus. After this he had a small quantity of water by the mouth, and at 6:20 p. m. a nutritive enema of egg, whiskey and water, which was partly retained. Digitalis and strychnin were both given during the evening.

At 9 p. m. the President was resting comfortably. The pulse was 130; temperature, 101.6; respiration, 30.

Four hundred and twenty c.c. of urine were passed during the day.

SECOND URINALYSIS.

Quantity	450 cc.
Color	amber, slightly turbid
Reaction	strongly acid
Specific gravity	1.026
Urea	0.038 gm. per 1 cc. of urine
Albumin	mere trace
Sugar	none
Indican	abundant
Sulphates	increased
Phosphates	somewhat increased
Chlorids	somewhat increased

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows fewer organic elements. Some large and small epithelial cells and some leucocytes. Casts are not so abundant as yesterday and are *principally* of the small finely granular variety. There is a marked diminution in small renal epithelial cells.

Quite a quantity of large crystals of uric acid and bacteria are present.

FOURTH DAY, MONDAY, SEPTEMBER 9.

The bulletins tell the story of the fourth day.

Bulletin 17, 6 a. m.—The President passed a somewhat restless night, sleeping fairly well. General condition unchanged. Pulse, 120; temperature, 101°; respiration, 28.

Bulletin 18, 9:20 a. m.—The President's condition is becoming more and more satisfactory. Untoward incidents are less likely to occur. Pulse, 122; temperature, 100.8°; respiration, 28.

Bulletin 19, 3 p. m.—The President's condition steadily improves and he is comfortable, without pain or unfavorable symptoms. Bowel and kidney functions normally performed. Pulse, 113; temperature, 101°; respiration, 26.

Bulletin 20, 9:30 p. m.—The President's condition continues favorable; Pulse, 112; temperature, 101°; respiration, 27.

Codeia was substituted for morphia, as the pain was less. Digitalis and strychnin were stopped. Nutritive enemas were given at 3:20 a. m., at 4:30 and 10 p. m. Hot water was taken quite freely by the mouth.

Attempts to get a good movement of the bowels were successful at noon, when he had a large, light-brown, partly-formed stool. This followed a small dose of calomel and a high enema of oxgall.

On the whole, the President's condition improved steadily during the day. He slept a good deal and was fairly comfortable. There was no pain on pressure over the abdomen.

THIRD URINALYSIS.

Quantity received	540 cc.
Color	amber, slightly turbid
Specific gravity	1.026
Albumin	a trace
Indican	not so abundant as yesterday
Urea	0.047 gm. per cc. of urine
Chlorids and phosphates	about normal
Sulphates	still somewhat high
Sugar	none

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows a decrease in the amount of organic elements and an increase of amorphous urates, but fewer crystals of uric acid. Casts are fewer and only the small granular and large hyaline varieties. The proportion of casts is greater. There are very few epithelial cells, mostly of renal type. A large number of cylindroids are found.

FIFTH DAY, TUESDAY, SEPTEMBER 10.

Soon after midnight the President had a high enema of soap and water, which was expelled, together with some fecal matter. He took hot water frequently, and slept a good deal.

Bulletin 21, 5:20 a. m.—The President has passed the most comfortable night since the attempt on his life. Pulse, 118; temperature, 100.4°; respiration, 28.

On awaking he felt very comfortable, and his mind was clear and cheerful. The nutritive enemas were kept up, and water given by the mouth. Had 2 small stools during the day. The only medicine given was one hypodermic of codeia phosphate, 0.015 gm.

In the evening the dressings were examined, and as there was considerable staining from the discharge, it was thought best to remove four stitches and separate the edges of the wound. A little slough was observed near the bullet track, covering a space nearly an inch wide, the thickness of the flaps. The separation seemed to extend down to the muscle. The surfaces, except those mentioned, looked healthy, but not granulating. It was supposed that the infection of the wound occurred either from the bullet or from the piece of clothing carried into the wound at the time of the shooting. The parts were thoroughly washed with hydrogen dioxid and packed lightly with gauze, and held together with adhesive straps.

SIXTH DAY, WEDNESDAY, SEPTEMBER 11.

Bulletin 26, 9 a. m.—The President rested comfortably during the night. Decided benefit has followed the dressing of the wound made last night. His stomach tolerates the beef juice well, and it is taken with great satisfaction. His condition this morning is excellent. Pulse, 116; temperature, 100.2°.

Bulletin 27, 3:30 p. m.—The President continues to gain, and the wound is becoming more healthy. The nourishment taken into the stomach is being gradually increased. Pulse, 120; temperature, 100.2°.

Bulletin 28, 10 p. m.—The President's condition continues favorable. Blood count corroborates clinical evidence of the absence of any blood poisoning. He is able to take more nourishment and relish it. Pulse, 120; temperature, 100.4°.

The blood count made by Dr. Wasdin in the evening was as follows:

Leucocytes	6,752
Red cells	3,920,000

A little after midnight, Wednesday morning, the patient was given 4 cc. of beef juice, the first food taken by the stomach. It seemed to be very acceptable. Nutritive enema was given at 2 a. m.; later there was a yellow stool.

From 4 to 8 c.c. of beef juice were given every 1 to 2 hours during the day. The rectum was becoming irritable, and did not retain the nutritive enemas well.

At 10 a. m. the remaining stitches were removed, the wound separated and dressed. It seemed to be doing well. Most of the sloughing tissue had separated.

The patient slept much during the day, and expressed himself as feeling very comfortable. The only medicine administered was 1 hypodermic of strychnin.

In the evening he was changed to a fresh bed. Nutritive enemas were continued.

Urine was passed much more freely—750 cc. in 24 hours.

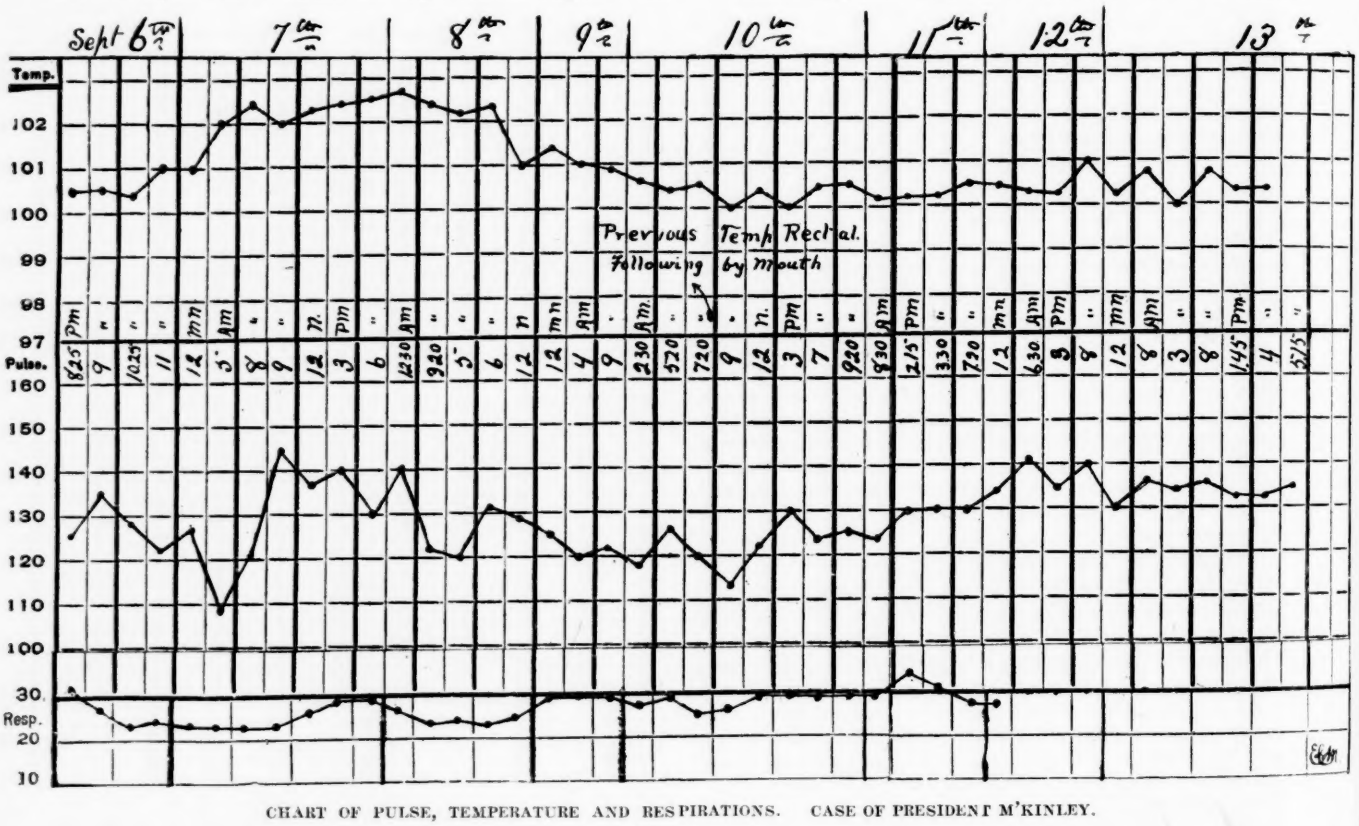

CHART OF PULSE, TEMPERATURE AND RESPIRATIONS. CASE OF PRESIDENT M'KINLEY.

FOURTH URINALYSIS.

Quantity	82 cc.
Color	amber, clear
Specific gravity	1.027
Reaction	strongly acid
Albumin	a trace
Indican	abundant
Urea	0.04 gm. per 1 cc. of urine
E. phosphates and chlorids	normal
Sulphates	still a little high

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows a marked diminution in amount of organic elements, but a great increase in uric acid crystals.

There are very few epithelial cells—mostly of renal type.

There are fewer casts—small and large hyaline—some finely granular.

Cylindroids are more abundant.

SEVENTH DAY, THURSDAY, SEPTEMBER 12.

The President slept a good deal during the night and awoke in the morning feeling better. The beef juice was continued and increased, and a little chicken broth added to the dietary. He also had a little whiskey and water.

At 8:30 a. m. he had chicken broth, a very small piece of toast and a small cup of coffee. He did not care for the toast, and ate scarcely any of it.

The wound was dressed and washed with a weak solution of iodin and then with hydrogen dioxid. He was given 30 cc. of castor oil at 9:20 a. m.

The President now seemed at his best and his condition to warrant the favorable prognosis given out. The time for peritonitis and sepsis had passed. The bowels had moved and gas passed freely, showing that there was no obstruction. The tongue was clear, and the appetite increasing; and he seemed to be able to digest food. There was no pain nor tenderness in the abdomen, and he was able to turn easily and to sleep on his side. The urine was steadily increasing. His spirits were good and his mind clear, while his pulse, though frequent, was strong and of good quality, and the temperature low.

The analysis of the urine gave no uneasiness, as the amount of urea was fair; there was no albumin worth considering, and the casts were rapidly diminishing. There were no more of them than are found in a large percentage of cases following a long operation under ether. The excess of indican was taken to mean merely some intestinal indigestion, and to be of no serious import. The only symptom to cause any uneasiness was the frequency of the pulse. Still, anxiety on this score was relieved by knowing that the President had naturally a rapid pulse, and that it was easily excited. The open wound was not considered important. It looked healthy, and, although it would take a long time to heal, in itself it was evidently causing no harm, nor was it likely to.

Dr. McBurney left Buffalo for his home in the morning, having arranged to return at once if his presence was desired.

Toward noon it was noticed that the character of the pulse was not quite so good. Infusion of digitalis, 8 cc., was ordered, and strychnin, 0.002 gm.

It was thought probable that there was some intestinal toxemia, as there had been no free movement from the bowel since food had been begun, the oil having failed to act. Gradually the pulse went to 130, and grew weaker.

Dr. Charles G. Stockton was added to the medical staff in consultation. At 7 p. m. the President was given 0.20 gm. of calomel.

Bulletin 32, 8:30 p. m.—The President's condition this evening is not quite so good. His food has not agreed with him, and has been stopped. Excretion has not yet been properly established. The kidneys are acting well. His pulse is not satisfactory, but has improved in the last two hours. The wound is doing well. He is resting quietly. Temperature, 100.2°; pulse, 128.

At 9:30 p. m. a second dose of 30 cc. of castor oil was given, followed by a high enema of oxgall. This resulted in a large, dark semifluid stool, which seemed to exhaust him somewhat. Stimulants were given freely. No more beef juice or food was given. The pulse grew rapidly worse, but at midnight there seemed some improvement, as bulletin 33 shows. At 11 p. m. 420 cc. of normal salt solution were given subcutaneously.

Bulletin 33, 12 m.—All unfavorable symptoms in the President's condition have improved since the last bulletin. Pulse, 120; temperature, 100.2°.

FIFTH URINALYSIS.

Quantity	132 cc.
Color	light amber, very turbid
Specific gravity	1.025
Reaction	acid
Albumin	mere trace, if any
Indican	less
Urea	0.044 gm. per 1 cc. of urine
Sulphates	about normal
E. phosphates	much increased
Chlorids	normal

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge shows fewer organic elements than the last examination. There is less uric acid and a large amount of amorphous phosphates. Renal casts, about as in the last examination, with very few cylindroids.

EIGHTH DAY, FRIDAY, SEPTEMBER 13.

At midnight the pulse was fairly good, 132. Strychnin and whiskey were given at intervals, and hypodermics of camphorated oil.

Bulletin 34, 2:50 a. m.—The President's condition is very serious, and gives rise to the gravest apprehension. His bowels have moved well, but his heart does not respond properly to stimulation. He is conscious. The skin is warm, and the pulse small, regular, easily compressible, 126; respiration, 30; temperature, 100°.

The wound had been dressed regularly in the manner described 3 times a day. At 9 a. m. the dressing was changed, and a mixture of balsam of Peru and glycerin put in on gauze after the douching.

Stimulants were continued as before, but more freely. Coffee, 45 cc., and clam broth, 60 cc., were given; also liquid peptonoids.

At 8:30, 1.50 gm. of adrenalin were given hypodermically, and repeated at 9:40.

At 10 a. m., nearly 2 pints of normal salt solution were given under the skin, and a pint containing adrenalin at 6 p. m. Nitroglycerin and camphor were also injected at various times, together with brandy and strychnin.

Stimulants as detailed above were used freely all day.

Three-thirty p. m.: Pulse growing weaker.

Five p. m.: Oxygen given and continued for some hours.

Six-thirty p. m.: Last bulletin, No. 39:

Bulletin 39, 6:30 p. m.—The President's physicians report that his condition is most serious in spite of vigorous stimulation. The depression continues and is profound. Unless it can be relieved, the end is only a question of time.

At 6:35 p. m., and again at 7:40, morphin was given hypodermically, as he was very restless and seemed to be suffering.

Nine p. m.: Heart sounds very feeble.

The President continued to sink, becoming weaker and weaker.

At 10 p. m. the oxygen was discontinued. The heart sounds were very feeble and consciousness lost.

The President died at 2:15 a. m., September 14.

Drs. E. J. Janeway and W. W. Johnston, who at the request of Dr. Rixey had been summoned in consultation, arrived too late, but were present at the autopsy. Dr. McBurney also returned on Friday afternoon.

SIXTH URINALYSIS.

Color	amber, turbid, with phosphates
Quantity	252 cc.
Reaction	acid
Specific gravity	1.023
Albumin	mere trace, if any
Urea	0.047 gm. per 1 cc. urine
Indican	a trace
E. phosphates	increased
Chlorids	normal
Sulphates	a little high

Microscopic Examination.—Microscopic examination of sediment obtained by centrifuge, before and after clearing, shows no change from yesterday's sample. Casts, hyaline and granular, both large and small, comparatively few. Cylindroids, a few. Crystals, large amount of uric acid, some sodium urate, and in the untreated specimen a large amount of amorphous deposit, principally of phosphates. There are a few epithelial cells, small, granular. Occasional red cells and leucocytes.

REPORT ON THE AUTOPSY.[1]

BY

HARVEY R. GAYLORD, M.D.

Pathologist to the New York State Pathological Laboratory.

Ordinary signs of death: ecchymosis in dependent portions of the body. Rigor mortis well marked. Upon the surface of the chest, to the right of the midsternal line, a spot 1 cm. in diameter, dark-red in color, with a slight crust formation covering it, 5.5 cm. from the suprasternal notch; from the right nipple, 10 cm.; from the line of the right nipple, 8.25 cm. Surrounding this spot, at which point there is an evident dissolution of the continuity of the skin, is a discolored area of oval shape extending upward and to the right. In its greatest length it is 11 cm.; and in its greatest width, 6 cm. It extends upward in the direction of the right shoulder. The skin within this area is discolored, greenish-yellow and mottled.

The surface of the abdomen is covered with a surgical dressing, which extends down to the umbilicus and upward to just below the nipples. The innermost layer of cotton is covered or stained with balsam of Peru and blood. On removing this dressing, a wound, parallel to, and somewhat to the left of, the median line, is exposed, inserted in which are two layers of gauze, likewise impregnated with balsam of Peru. The wound is 14.5 cm. in length, and is open down to the abdominal muscles. The layer of abdominal fat is 3.75 cm. in thickness. The appearance of the fat is good, a bright yellow in color. No evidence of necrosis or sloughing. In the left margin of the surgical wound, lying 1 cm. to the right of a line drawn from the umbilicus to the left nipple, 15.5 cm. from the nipple and 16.5 cm. from the umbilicus is a partly healed indenta-

1. The autopsy was performed by Drs. Gaylord and Matzinger.

tion of the skin, and an excavation of the fat immediately beneath it (this is the site of the entry of the bullet), extending down to the peritoneal surface. On making the median incision, starting from the suprasternal notch and extending to a point just below the symphysis, the subcutaneous fat is exposed, which is of bright yellow color and normal appearance except in an area which corresponds superficially to the area of discoloration described as surrounding the wound upon the chest wall. This area marks the site of a hemorrhage into the subcutaneous fat. The remainder of the subcutaneous fat is firm, and measures 4.75 cm. in thickness on the abdominal wall. On opening the sheath of the right rectus muscle, it is seen to be of dark-red color. (Culture taken from ecchymotic tissue under the upper bullet hole and from between the folds of the small intestine. Three tubes from each locality on agar and gelatin.)

On opening the abdominal cavity, the parietal surface of the peritoneum is exposed, and is found to be covered with a slight amount of bloody fluid; is perfectly smooth and not injected. The great omentum extends downward to a point midway between the umbilicus and the symphysis. It is thick, firm; its inferior border is discolored by coming in contact with the intestines. Below the umbilicus a few folds of intestines are exposed. These are likewise covered with discolored blood, after the removal of which the peritoneal surface is found to be shiny. On the inner aspect of the abdominal wound the omentum is found to be slightly adherent to the parietal peritoneum, and can be readily separated with the hand from the edge of the wound. At this point the omentum is somewhat injected. This adhesion to the omentum is found to extend entirely around the abdominal wound. The parietal peritoneum immediately adjacent to the inner aspect of the abdominal wound is ecchymotic.

On removing the subcutaneous fat and muscles from the thoracic wall, the point which marks the dissolution of continuity of the skin upon the surface, is found to lie directly over the margin of the sternum and to the right side between the second and third ribs. There is no evidence of ecchymosis or injury to the tissues or muscles beneath the subcutaneous fat. On making an incision through the subcutaneous fat, directly through the wound upon the chest, a small cavity is exposed about the size of a pea just beneath the skin which is filled with fluid blood. The subcutaneous tissue underlying the area of discoloration on the surface of the chest wall shows hemorrhagic infiltration.

On removing the sternum, the lungs are exposed, and do not extend far forward. A large amount of pericardial fat is exposed. Pleural surface on both sides is smooth. There are no adhesions on either side within the pleural cavities. The diaphragm on the right side extends upward to a point opposite the third rib in the mammary line. No perceptible amount of fluid in either pleural cavity. On opening the pericardial cavity, the surface of the pericardium is found to be smooth and pale. The pericardium contains approximately 6 cc. of straw-colored, slightly turbid fluid. (Some taken for examination.)

On exposing the heart, it is found covered with a well-developed panniculus. The heart measures, from the base to the apex, on the superficial aspect, 10.5 cm. The right ventricle is apparently empty. The heart feels soft and flaccid. On opening the left ventricle, a small amount of dark-red blood is found. The muscle of the left ventricular wall is 1.5 cm. in thickness; dark reddish-brown in color; presents a shiny surface. The average thickness of the pericardial fat is 3.5 mm. (Cultures made from the auricle.) The left auricle contains but a small amount of dark currant-colored blood. The mitral valve admits 3 fingers. The right ventricle, when incised in the anterior line, is found to be extremely soft; the muscular structure is 2 mm. in thickness. The panniculus measures 7 mm. The muscle is dark red in color; very shiny, and the pericardial fat invades the muscular wall at many points.

On opening the right auricle it is found to be filled and distended by a large currant-colored clot, which extends into the vessels. The tricuspid orifice admits readily three fingers. The coronary arteries are patulous and soft; no evidence of thickening.

Lungs are gray color, and contain a moderate amount of coal-dust pigment. Slight amount of frothy fluid escapes from the bronchi; but the pulmonary tissue is crepitant and free from exudate.

On unfolding the folds of intestine, there is no evidence of adhesion until a point just beneath the mesocolon is reached, when, on removing a fold of small intestine, a few spoonfuls of greenish-gray thick fluid flows into the peritoneal cavity.

On the anterior gastric wall is an area to which a fold of the gastrocolic omentum is lightly adherent. On breaking the adhesion there is found a wound about midway between the gastric orifices, 3.5 cm. in length, parallel with the greater curvature of the stomach, 1.5 cm. from the line of omental attachment. This wound is held intact by silk sutures. There is no evidence of adhesion at any other point on the anterior wall. The gastric wall surrounding the wound just mentioned for a distance of 2 cm. to 3 cm. is discolored, dark greenish-gray in appearance, and easily torn. On exposing the posterior wall of the stomach from above, along its greater curvature, the omentum is found to be slightly adherent, a line of silk ligatures along the greater curvature of the stomach marking the site where the omentum had been removed. On throwing the omentum downward, the posterior gastric wall is exposed. On the posterior wall, a distance of 2 cm. from the line of omental attachment, is a wound approximately 2 cm. long, held intact by silk sutures. The gastric wall surrounding this wound is discolored. On the surface of the mesocolon, which is posterior to the gastric wall at this point, is a corresponding area of discoloration, the portion coming directly in contact with the wound in the gastric wall being of dull gray color. The remainder of the surface of the posterior wall of the stomach is smooth and shiny. Beyond the surgical wound in the posterior wall of the stomach is found an opening in the retroperitoneal fat, large enough to admit 2 fingers. This opening communicates with a track which extends downward and backward as far as the finger can reach. The tissues surrounding this track are necrotic. On removing the descending portion of the colon, a large irregular cavity is exposed, the walls of which are covered with gray, slimy material, and in which are found fragments of necrotic tissue. Just at the superior margin of the kidney is located a definite opening which forms the bottom of the track traced from the stomach. On stripping the left kidney from its capsule, it is found that the superior portion of the capsule is continuous with the cavity. The weight of the left kidney is 141.82 grams. The kidney is readily stripped from its capsule: is dark red; the stellate veins are prominent, and along its greater curvature are numerous dark red depressions. On the superior aspect of the kidney is a protrusion of the cortex, dark red in color, and in this protrusion is a laceration 2 cm. long, extending across the superior border, approximately at right angles to the periphery of the kidney and from before backward. On incising the kidney, the cortex and medulla are not easily distinguishable from one another; both are of rose-red color, the cortex measuring approximately 6 mm. in thickness. The vessels in the pyramids of Ferrein are very prominent. Beneath the protruding portion of the surface, the cortex is dark red in color. This discoloration extends downward in pyramidal form into the medulla. The laceration of the surface marks the apex of the protrusion of the kidney substance. Between the spleen and the superior aspect of the kidney is a necrotic tract which extends down and backward, and ends in a blind pocket. The tract which included the superior aspect of the kidney can be traced into the perinephritic fat to a point just above the surface of the muscles of the back.

The necrotic cavity which connects the wound on the posterior wall of the stomach and the opening adjacent to the kidney capsule is walled off by the mesocolon, and is found to involve an area of the pancreas, approximately 45 mm. in diameter and extending about half through the organ. This organ at its center forms part of the necrotic cavity. Through its body are found numerous minute hemorrhages and areas of gray softening, the size of a pea or smaller. These are less frequent in the head portion of the pancreas.

A careful examination of the track leading down toward the dorsal muscles fails to reveal the presence of any foreign body. After passing into the fat, the direct character of the track ceases; and its direction can be traced no further. The adjoining fat and the muscles of the back were carefully palpated and incised, without disclosing a wound or the presence of a foreign body. The diaphragm was carefully dissected away, and the posterior portion of the thoracic wall likewise carefully examined. All fat and organs which were removed, including the intestine, were likewise examined and palpated, without result.

The great amount of fat in the abdominal cavity and surrounding the kidney rendered the search extremely difficult.

The right kidney is imbedded in a dense mass of fat; capsule strips freely; it weighs 141.75 grams; measures 11.5 cm.; substance is soft; cortex is 6 mm. in thickness; rose-red in color; cut surface slightly dulled. There are a few depressions of the surface, and the stellate veins are prominent.

The liver is dark-red in color; the gall-bladder distended. The organ was not removed.

The autopsy continued for a longer period than was anticipated by those who had charge of the President's body, and we were requested to desist seeking for the bullet and terminate the autopsy. As we were satisfied that nothing could be gained by locating the bullet, which had apparently set up no reaction, search for it was discontinued.

Anatomic Diagnosis.—Gunshot wound of both walls of the stomach and the superior aspect of the left kidney; extensive necrosis of the substance of the pancreas; necrosis of the gastric wall in the neighborhood of both wounds; fatty degeneration, infiltration and brown atrophy of the heart muscle; slight cloudy swelling of the epithelium of the kidneys.

A matter of no inconsiderable embarrassment to us arose in the objection to our removing sufficient portions of the tissues for examination. We were able to secure only 2 small fragments of the stomach wall; tissue from around the wound upon the chest wall; a portion of fat from the wall of the necrotic cavity; a small piece of each kidney, that of the left kidney including the portion involved by the original wound; and pieces of heart muscle from the right and left ventricles. The microscopic examination of these tissues follows:

The piece of retroperitoneal fat, where it forms part of the necrotic cavity, is seen on section to be covered with a thick gray deposit, which has an average thickness of from 4 mm. to 6 mm. Beneath this, and separating it from the fat, is a well-defined area of hemorrhage from 1 mm. to 2 mm. in thickness. The appearance of this piece of tissue is characteristic of the fat tissue surrounding the entire cavity. A section made perpendicular to the surface and stained with hematoxylin-eosin, shows the following characteristics: Under low power there is no evi-

dence of round-celled infiltration between the fat cells, or of fat necroses. The surface of the tissue which, in the microscopic specimen was covered by a layer of grayish material, proves, under low power to consist of a partly organized fibrinous deposit. At the base of this deposit is evidence of an extensive hemorrhage, marked by deposits of pigment. The surface of the membrane is of rough and irregular appearance, and contains a large number of round cells with deeply stained nuclei. Under high power the organization of the membrane may be traced from the base toward the surface. The portion immediately adjacent to the fat tissue consists of a network of fibrin enclosing large numbers of partly preserved red blood corpuscles. In many areas the red blood corpuscles are broken down and extensive deposits of pigment are found. Extending into the fibrin structure of the membrane are numerous typical fibroblasts and round cells. In some regions pigment is evidently deposited in the bodies of large branching and spindle cells. Here and there, included in the membrane, are the remains of fat cells, and toward the surface of the membrane a large number of round cells scattered through the interstices of the membrane. There are but few polymorphonuclear leucocytes. Here and there in the membrane are fragments of isolated fibrous connective tissue with irregular contours and an appearance suggesting that they are fragments of tissue which have been displaced by violence and included in the fibrin deposit. The fibrin in the superficial layers of the membrane is formed in hyaline clumps. The organization along the base of the deposit is comparatively uniform.

Sections stained with methylene blue, carbol-thionin and Gram's method were carefully examined for the presence of bacteria, with negative results. Even upon the surface of the membrane there are no evidences of bacteria.

The section of the left kidney including the triangular area of hemorrhage described in the macroscopic specimen, reveals the following appearances. (Section hardened in formalin, stained with hematoxylin-eosin.) Examined macroscopically, section represents a portion of a kidney cortex made perpendicular to the surface of the cortex, and including an area of hemorrhage into the substance of the cortex 1 cm. in length measured from the capsular surface downward, and presenting a width of from 5 mm. to 6 mm. The capsular surface has apparently been torn.

Under low power the margins of the preparation are found to consist of well-preserved kidney structure. There is a slight amount of thickening of the interstitial tissue, and occasional groups of tubules are affected by beginning cloudy swelling. The glomeruli are large and present a perfectly normal appearance. As we approach toward the center of the preparation, occasional glomeruli are met with in which the capillary loops are engorged and the adjacent tubules contain red blood-corpuscles. A short distance further, the kidney structure becomes entirely necrotic. Here and there the remains of tubules may be made out, and these are infiltrated with cells. The necrotic area presents a rough, net-like structure. As we approach toward the surface of the kidney, we find that the necrosis becomes more marked. There is the merest suggestion of kidney structure, its place being taken by disintegrated red blood-cells and leucocytes, embedded in a well-defined fibrinous network. There is great distortion of the kidney structure about the periphery of the necrotic area. In this region a considerable amount of pigment is also found in the necrotic tissues.

Under high power, the characteristics of the necrotic tissues may be better observed. The kidney structure is broken up and torn into irregular fragments, infiltrated by red blood corpuscles and leucocytes. In the portion of the necrotic mass beneath the capsule, the kidney structure is practically obliterated and is replaced by a network of fibrin, which includes large numbers of red blood-cells and leucocytes. Scattered through the entire necrotic area are frequent deposits of pigment. In the deeper portions of the necrotic area, the margins of the fibrin deposit are invaded by fibroblasts from the connective tissue structure of the kidney.* The organization in these areas is, however, slight.

Sections stained with methylene-blue and Gram's method and carefully examined under oil immersion, fail to reveal the presence of any organisms. In preparations stained with methylene blue, the deposits of pigment may be readily observed. Section of the same tissue hardened in Hermann's solution and examined for fat, shows the presence of numerous fat droplets within the epithelium of the tubules which are adjacent to the area of necrosis. In the portions of the preparation more widely distant from the area of necrosis, no fat is present.

Section of the right kidney hardened in formalin and stained with hematoxylin-eosin, reveals the presence of areas in which slight parenchymatous degeneration of the epithelium in the uriniferous tubules may be noted. These areas are not extensive, and are confined to single groups of tubules. The interstitial connective tissue of the organ seems to be slightly increased in amount, but there is no well-defined round-celled infiltration. An occasional hyaline glomerulus is to be met with in these cases surrounded by increased connective tissue. The epithelium of the kidney tubules, aside from those in which the parenchymatous degeneration is present, is well preserved. The nuclei are well stained; protoplasm, finely granular.

A fragment of the stomach wall taken from the immediate neighborhood of the anterior wound is in a condition of complete necrosis. The nuclei of the cells are scarcely demonstrable. The epithelial surface is recognized with difficulty. At its base are apparently a few round cells. Examination of the blood-vessels reveals nothing characteristic. There is apparently no evidence of thrombosis. A section made through the gastric wall at some distance from the wound, reveals the well-preserved muscular structure of the gastric wall, which presents no characteristic alterations. Superficial portions of the epithelium have apparently been affected by postmortem digestion. However, in one portion of the preparation, the epithelium is intact, and shows distinct evidence of marked round-celled infiltration between the glandular structures. The blood vessels contained blood-corpuscles with the usual number of leucocytes.

The fragments of heart-muscle which were removed from the right and left ventricular walls, were examined in the fresh state, and exhibited a well-defined fatty degeneration of the muscle fibers, and in the case of the right ventricular wall, an extensive infiltration between the muscle fibers, of fat, was apparent. Sections from these fragments of muscle hardened in Hermann's solution, are taken for examination. A fragment of muscle from the right ventricular wall was removed at a point where the fat penetrated deeply into the muscular structure, the ventricular wall at this point showing an average thickness of 2.5 mm. Under low power, the muscle fibers are separated into bundles by masses and rows of deeply stained fat cells. The muscle fibers are seen to contain groups of dark brown granules lying in the long axes of the cells. Under high power, these are resolved into extensive groups of dark brown pigment arranged around the nuclei. The muscle fibers are slender, the cross and longitudinal striation is well-defined. Examined near the margin of the preparation, where the osmic-acid fixation has been successful, all of the muscle fibers are found to contain minute black spherical bodies, extending diffusely through all the muscle fibers about the entire margin of the preparation. These fine fat droplets are present in sufficient amount to speak of an extensive diffuse fatty degeneration of the muscle fibers. Where the large fat cells have separated the muscle fibers, these are found to be more atrophic than those in the central portions of the larger bundles.

The examination of the section through the healed bullet wound on the chest walls reveals nothing of importance. The dissolution of continuity is filled in by granulation-tissue, and there is evidence of beginning restoration of the epithelium from the margins. Stains for bacteria give negative results.

In summing up the macroscopic and microscopic findings of the autopsy, the following may be stated: The original injuries to the stomach-wall had been repaired by suture, and this repair seems to have been effective. The stitches were in place, and the openings in the stomach-wall effectually closed. Firm adhesions were formed both upon the anterior and posterior walls of the stomach, which reinforced these sutures. The necroses surrounding the wounds in the stomach do not seem to be the result of any well-defined cause. It is highly probable that they were practically terminal in their nature, and that the condition developed as a result of lowered vitality. In this connection there is no evidence to indicate that the removal of the omentum from the greater curvature and the close proximity of both of these wounds to this point, had any effect in bringing about the necrosis of the gastric wall, although circulatory disturbances may have been a factor. The fact that the necrotic tissue had not been affected by digestion strongly indicates that the necrosis was developed but shortly before death. The excavation in the fat behind the stomach must be largely attributed to the action of the missile. This may have been the result of unusual rotation of a nearly-spent ball, or the result of simple concussion from the ball passing into a mass of soft tissues. Such effects are not unknown. The fact that the ball grazed the superior aspect of the left kidney, shown by the microscopic investigation of that organ, indicates the direction of the missile, which passed in a line from the inferior border of the stomach to the tract in the fat immediately superior to the kidney. There was evidence that the left adrenal gland was injured.

The injury to the pancreas must be attributed to indirect, rather than direct, action of the missile. The fact that the wall of the cavity is lined by fibrin, well advanced in organization, indicates that the injury to the tissues was produced at the time of the shooting. The absence of bacteria from the tissues indicates that the wound was not infected at the time of the shooting, and that the closure of the posterior gastric wound was effectual. The necrosis of the pancreas seems to us of great importance. The fact that there were no fat necroses in the neighborhood of this organ indicates that there was no leakage of pancreatic fluid into the surrounding tissues. It is possible that there was a leakage of pancreatic fluid into the cavity behind the stomach, as the contents of this cavity consisted of a thick, grayish fluid, containing fragments of

connective tissue. In this case the wall of fibrin would have been sufficient to prevent the pancreatic fluid from coming in contact with the adjacent fat. The extensive necrosis of the pancreas would seem to be an important factor in the cause of death, although it has never been definitely shown how much destruction of this organ is necessary to produce death. There are experiments upon animals upon record, in which the animals seem to have died as a result of not very extensive lesions of this organ. One experiment of this nature reported by Flexner (*Journal of Experimental Medicine*, Vol. II) is of interest. The fact that concussion and slight injuries of the pancreas may be a factor in the development of necrosis, is indicated by the researches of Chiari (*Zeitschrift fuer Heilkunde*, Vol. xvii, 1896, and *Prager Med. Wochenschr.*, 1900, No. 14), who has observed (although a comparatively rare condition) extensive areas of softening and necrosis of the pancreas, especially of the posterior central portion which lies directly over the bodies of the vertebræ, where the organ is most exposed to pressure or the effects of concussion. The wound in the kidney is of slight importance, except as indicating the direction taken by the missile. The changes in the heart, as shown by the macroscopic inspection and the microscopic examination, indicate that the condition of this organ was an important factor. The extensive brown atrophy and diffuse fatty degeneration of the muscle, but especially the extent to which the pericardial fat had invaded the atrophic muscle fibers of the right ventricular wall, sufficiently explain the rapid pulse and lack of response of this organ to stimulation during life.

REPORT ON THE BACTERIOLOGIC EXAMINATION.

BY

HERMAN G. MATZINGER, M.D.

Bacteriologist to the New York State Pathological Laboratory.

It is obvious that the short space of time which has elapsed since the death of the President has hardly been sufficient to prepare a complete and thorough bacteriologic report. This report contains all the observations which have been made up to this time:

On September 11, during the life of the President, cultures were made by Dr. Wasdin from the base of the abdominal wound and from dressings removed at the same time. These were submitted to me for examination, and showed the presence of the ordinary pus organisms: Staphylococcus pyogenes aureus and S. cereus albus, with a gas-forming bacillus which, in pure anaerobic culture on glucose gelatin, forms small, pearly, translucent colonies, with no liquefaction. In litmus milk it produces acid, but no coagulation. Morphologically, it is apparently a capsulated, short bacillus, which takes stains poorly, and which does not stain by Gram's method. Inoculated into the ear vein of a rabbit, which was killed immediately afterward, it produced, after 24 hours in the body of the rabbit, a marked accumulation of gas in the organs, and again grew out in pure culture. As yet the organism is not fully identified.

None of these cultures showed streptococci. A bacterium which appears to be one of the proteus group was, however, isolated, which does not stain by Gram, and appears in varying forms, sometimes small oval, and again quite rod shaped and in short chains. Sometimes it is surrounded with a slimy covering, which remains clear like a capsule when the organism is stained. On slanting agar, it produces a whitish, slimy growth, which gradually runs to the bottom of the slant and produces an odor of decomposition. On gelatin, it grows very slowly with slight and slow indication of liquefacton. In litmus milk, it produces acid and rapid coagulation.

At the time of the autopsy, September 14, inoculations were made by myself. From the base of the wound, there was again obtained a number of pus organisms, principally a white staphylococcus and the bacterium described above, but no streptococci. Cultures made from the peritoneal surface of the intestines were entirely negative. Cultures made from the under surface of the omentum near the colon, were entirely negative, both with and without oxygen. Cultures from the blood of the right auricle were likewise negative. A very careful and extensive search for micro-organism in the contents of the necrotic cavity, behind the stomach, reveals nothing but a short stumpy bacterium, which, as far as the work has been carried at present, appears to belong to the proteus group, and is very like Proteus hominis capsulatus, described by Bordoni and Uffreduzzi.

Morphologically, it is not uniform, and sometimes appears almost encapsulated, being surrounded by material that does not stain; is quite refractory to Gram, and produces an odor of decomposition as it grows. It does not liquefy gelatin rapidly and grows slowly, as a glistening white elevated surface growth which slowly sinks; but on agar in the thermostat it grows very rapidly, as a moist, grayish-white, translucent mass. Colonies on gelatin plates have a clean circumference, are granular and quite refractive. In litmus milk it produces acid and rapid coagulation. Animal experiments are still incomplete and can not be published at this time.

It must be stated that there is occasion for suspecting that this may be a contamination, either from the outer wound or elsewhere, because, quite unavoidably, the technique of obtaining the material and cultures from the necrotic cavity was not absolutely correct.

Cultures made from the small area of broken-down tissue under the chest wound at the time of the autopsy, grew what appears to be staphylococcus epidermidis albus, described by Dr. Welch.

The slimy, gray, necrotic material from the cavity above the transverse mesocolon behind the stomach, was carefully examined microscopically, with the result that very few micro-organisms were found in the fresh state, and no recognizable tissue elements of any kind, no leucocytes or pus-corpuscles, but an abundance of crystals which appeared more like fatty acid than fat crystals. It contained no free hydrochloric acid, and was alkaline in reaction. Experiments as to its digestive power were negative. About 2 cc. of this material were injected into the space behind the stomach of a dog (still living), with no result except quite an elevated temperature for 3 or 4 days. Other animal experiments are also still incomplete.

It might be well to state here that the bacteriologic examination of the chambers and barrel of the weapon used, as well as the empty shells and cartridges, ordered by the District Attorney, was entirely negative, except that from a loaded cartridge there was grown an ordinary staphylococcus and a mould. The chemical examination of the balance of the loaded cartridges, made by Dr. Hill, chemist, was also negative.

The absence of known pathogenic bacteria, particularly in the necrotic cavity, warrants the conclusion that bacterial infection was not a factor in the production of the conditions found at the autopsy.

This report has received the approval of the consulting staff of the late President, and is issued with our consent.

P. M. RIXEY.
MATTHEW D. MANN.
HERMAN MYNTER.
ROSWELL PARK.
EUGENE WASDIN.
CHARLES MCBURNEY.
CHARLES G. STOCKTON.

Clinical Report.

TRACHEOTOMY IN BREECH PRESENTATION.

AN OLD OPERATION BUT A NEW APPLICATION.

HERBERT MARION STOWE, M.D.

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CHICAGO.

Mrs. E. M. C., German, aged 31, was taken in labor with her second child at 12:30 p. m., Sept. 1, 1901. I was summoned at 10 o'clock on the evening of the same day. Upon my arrival at the house, I found a nervous and delicate woman in the second stage of labor. I diagnosed a breech presentation, S. D. A.; the breech being high up and not engaged. The membranes had ruptured early, and the birth canal was poorly prepared for fetal passage. The fetal heart tones were regular, but numbered 160 beats per minute. The fetus was unusually active. The pains were weak and of short duration. By reason of the danger of fetal asphyxia, I proceeded to extract.

It was impossible to bring down a foot, but I succeeded in placing a finger in the anterior groin and made pressure downward and backward in the usual manner until the posterior groin was within reach. After this point, the first act of extraction was easy and was quickly completed. No further difficulty was experienced until after the arms had been delivered. The head had become fixed in the transverse diameter of the inlet and remained so in spite of the Smellie-Veit's, or, more correctly speaking, the Mauriceau method combined with strong suprapubic pressure in the Walcher posture. After working a short time, however, the head was felt to descend slightly into the pelvis, while the occiput partially rotated anteriorly, but successful extraction of a living child seemed impossible at the time.

Convinced, therefore, that the child's life was practically lost, the writer decided to perform tracheotomy as an experimental operation. The body of the child was lifted up by an assistant, the neck hastily washed with a one-half per cent. lysol solution, and the field of operation rendered as aseptic as the limited amount of time would permit. The perineum was pressed backward and the larynx was then steadied with a tenaculum and a linear incision made through the cricoid cartilage, and two or three rings of the trachea. The thick, venous blood which escaped from the incision gave positive evidence of the grave state of asphyxia present. The tissues were then retracted and a soft rubber, aseptic, tracheal catheter was introduced far enough to snugly fit the trachea and pure air gently forced into the lungs by an air-bag. The lungs immediately expanded and the chest was then compressed by the hands. These movements, alternating, were continued until the respiratory rhythm was voluntarily inaugurated and maintained and the body became pink in color. The hemorrhage now ceased and forceps were applied to the after-coming head; stationary, intermittent tractions were made and every effort taken to preserve the perineum as far as possible. In fourteen and one-half minutes after the delivery of the arms, the head was extracted and the child born without any sign of the asphyxia which was so threatening a short time before. The child's body was wrapped in a warm, moist towel to prevent premature respiration during extraction.

The cord was left uncut until the funic circulation ceased and the loss of blood from the neck was in a measure compensated for. The mouth and throat were cleansed and the blood in the trachea carefully removed. Respiration took place through the laryngeal opening only. The child uttered a few weak cries when slapped, but otherwise appeared healthy. A stitch was taken on each side of the incision and the long end of the threads tied behind the neck. This kept the incision patulous and allowed free access of air when the catheter was withdrawn.

Five hours later, there being no dyspnea when the wound edges were coaptated, sutures of fine catgut were introduced and tied, and thus normal respiration was established for the first time. The wound healed by first intention and the child made an excellent recovery. The temperature was at no time over 102 F. The mother recovered with an intact perineum.

The fetal measurements were as follows: Diameter, bitemporal, 8 cm.; biparietal, 8.5 cm.; suboccipital-bregmatic, 9.5 cm.; occipital-frontal, 11 cm.; occipito-mental, 12 cm.; bis-acromial, 10.5 cm.; bis-iliac, 8.5 cm. The cephalic bones were hard and ossified; the fontanelles small; the sutures closed.

The mother's diameters were: Interspinous, 25 cm.; intercristous, 27.5 cm.; Baudelocque, 18 cm.; bitrochanteric, 31 cm.; circumference, 92 cm.; conjugata vera, 9 cm.

It has long been an established rule in obstetric practice to extract the fetal head as quickly as possible in head last cases. The fetus at this stage of the operation is deprived of its supply of oxygen by the cord being caught between the head and the maternal pelvis, or, as is claimed by some writers, a partial separation of the placenta from the uterine wall. The amount of oxygen already in the body is only sufficient to retain fetal life for four or five minutes, although cases are recorded where children have been resuscitated after fifteen minutes of delay. These cases, however, are exceptional, and their accuracy is sometimes questioned. Time is the greatest element in the safe delivery of the fetus after the cord has come into view. If the head is not delivered within four to six minutes after the extraction of the arms the child will probably be still-born or else deeply asphyxiated.

Attempts have been made to prevent asphyxia by supplying the child with oxygen artificially during extraction. Pugh recommended the method of passing two fingers into the mouth and allowing air to enter along the hollow of the hand. Weidmann conveyed air to the mouth by means of a catheter or a special tube prepared for the purpose called the "vectis aerophorus." When the head is low in the pelvis, the perineum can frequently be pushed behind the mouth and air admitted to the oral cavity directly.

Where, however, the mouth is beyond the reach of the fingers and the catheter becomes useless on account of the difficulty of entering the mouth and the inevitable kink at the bend of the tube, the only chance of saving the child's life has, heretofore, been in a rapid forceps operation with a large fetal mortality resulting. Should the forceps operation prove negative, the child immediately dies, or craniotomy, with a mortality of 100 per cent., follows. Should the forceps deliver the child, it is deeply asphyxiated and frequently, because of premature respiratory efforts, becomes a victim of aspiration pneumonia.

In a given case where the estimated diameters of the fetal head and the determined diameters of the pelvis are such that the accoucheur may expect cephalic impaction; where the usual methods by hand and position have proven fruitless the operation of tracheotomy as described above is recommended. When the child's body is raised to a perpendicular plane, the blood and mucus are prevented from clogging up the bronchi. In a majority of the cases the proximal end of the trachea will be found free of obstruction as the mucus collects principally in the pharynx and upper larynx. The use of an air-bag, such as the Politzer inflation bag, is preferable to blowing in air from the lungs, as expired air is always deficient in oxygen. If one were able to introduce nearly pure oxygen gas, the child would stand the best chance for recovery. The body should be enveloped by a warm, moist towel, to reduce to a minimum the difference between the internal and external atmospheres.

If the labor has been conducted according to established rules of asepsis and antisepsis, little or no time need be lost in cleansing the neck as the fetus is already sterile unless infected from external sources.

With the imminent danger of asphyxia forestalled, the forceps may be applied to the after-coming head and traction be slowly made, giving time for the head to mold and adapt itself to the pelvic canal as well as protecting the perineum as far as possible. This method is to be preferred to the common one of applying forceps, extracting hastily and in 28 to 30 per cent. of cases delivering a dead child, besides in many cases lacerating the perineum. Should the perineum be found to overlap the neck to a moderate extent, an episiotomy may be done immediately, and the tissues retracted sufficiently to expose the field of operation.

The after-treatment is carried out in the usual manner. The obstruction to respiration being removed at birth, the tracheotomy wound may be closed in a few hours.

4433 Lake Avenue.

Diet in Nephritis.—A nephritic must be well nourished, and the old theories of the harmfulness of this or that food are not sustained by actual experience. It may even prove possible that creatin and similar substances may be directly beneficial, on the same principle as we treat heart diseases with heart poisons. O. Reichel publishes in the *Cbl. f. d. Ges. Ther.*, January, a study of the subject, concluding that the nephritic patient should not be restricted in diet, but should be allowed to eat whatever he best digests and assimilates, without regard to theory. He urges closer study of the mild, ambulant cases of albuminuria, partial nephritis and post-nephritic inflammation of the kidneys—regarding them all as actual nephritis and better suited than severer cases for research on the effect of diet on the progress or retrogression of the morbid processes. He also denounces sweat baths as another purely theoretical measure, which in reality fails to accomplish the anticipated results. He has never known a nephritic to be benefited by them in his experience. He attributes the symptoms in nephritis to a toxin in the blood, retained by the insufficiency of the kidneys, and causing the edema and hypertrophy of the heart by the changes it induces in the kidneys, which diminish their power of resorption. Insufficient absorption is a factor in the delay in the test-elimination of methylene blue, as well as the insufficiency of the kidneys. The changes in the walls of the vessels cause increased resistance, and, secondarily, increased blood pressure with consequent hypertrophy of the heart.

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RUDOLPH VIRCHOW.

Professor Rudolph Ludwig Karl Virchow, the distinguished German pathologist, anthropologist and politician, completed his eightieth year on Sunday, October 13, 1901. The event was celebrated in Berlin and in most of the medical centers of the world on Saturday, October 12.

Virchow was born in Schivelbein, a small town in Pomerania, in 1821. He was educated at the Gymnasium in Berlin, and graduated in medicine at the University in that city in 1843. After graduation he undertook the study of pathology and soon became assistant to Froriep and prosector at the Charité. With his friend Reinhardt, he founded in 1847 the *Archiv*, which has become the most important medical periodical in the world and ever since has borne his name. Compelled in 1849, on account of his democratic tendencies, to give up his position and residence in Berlin, Virchow removed to Würzburg, where he continued active work in pathological anatomy, supported the Physikalische-Medicinische Gesellschaft, and made for himself such a name that the faculty and government in Berlin recalled him in 1856 to the Chair of Pathological Anatomy. A new pathological institute was established for him, and he has remained director of this institute and professor of the University ever since.

To understand Virchow's immense influence upon the progress of medicine it is only necessary to compare the conditions of the science before 1850 with those which exist to-day and to recall briefly the various researches undertaken by Virchow during the intervening period. Before the time of Virchow's work, accurate autopsy reports were scarcely known. Clinical histories of patients were reported from memory rather than from notes taken at the time of the examinations, and even when clinical records were made they referred only to the pulse and to a few of the more striking symptoms. Nearly all medical articles were made to conform to some abstract theory, or were arranged according to some one of the "systems" so much in vogue in the eighteenth and the first half of the nineteenth centuries. In the program laid down in the first volume of the *Archiv* (1847), Virchow declared that the time had come for the detailed study of individual cases, pathological and clinical. Only after the accumulation of such data did he believe that it would be possible to construct a true theory of disease—a pathological physiology of real value. General laws were to be arrived at from below rather than from above; hypotheses were to succeed rather than precede the establishment of such general laws; thenceforward the inductive, not the deductive method, was to be the dominant one in medicine. It was necessary, he declared, that in the study of medicine we get at least three hundred times nearer than in the past to the natural processes.

The enemies of the new movement declared that Virchow was not practical; that his ideas were dangerous, and that he and his comrades were doctrinaires and adventurers. The fight started by the *Archiv* against the prevalent mixture of voluntary rationalism and gross empiricism proved, however, rapidly successful, and the introduction by Virchow of the genetic principle of investigation did much to turn pathological studies in an entirely new direction.

Among pathologists Virchow, though revered for his special researches on pyemia, leukemia, thrombosis and embolism, is perhaps best known as the founder of the so-called "cellular pathology." In his now long-famous volume (Die Cellularpathologie in ihrer Begründung auf physiologischer und pathologischer Gewebelehre, Berlin, 1858) he led back pathological processes in greater completeness than had ever been attempted before, to alterations in the elementary constituents of the body—the cells. His great work on tumors (Die Krankhaften Geschwülste, Berlin, 1863-67) remains to-day the most valuable work on the subject for consultation. The technique introduced into the autopsy-room by Virchow and his published account of it became the standard for postmortem work all over the world.

In anthropology and ethnography Virchow is as well and favorably known as in pathology. His investigations of race characteristics, his measurements of skulls and other contributions in the fields are epoch-marking.

Virchow's fame quickly spread beyond his own country; students of higher medicine flocked to him from all parts of the world, and he speedily became the head of the school of pathology known by his name. His power as a teacher has been unrivaled. He knew how to excite in his pupils the spirit of investigation.

No greater compliment has, perhaps, ever been paid to a scientific medical man than that made in honor of his seventieth birthday, when fifty-four of the most prominent medical scientists in the world contributed three large volumes of original research to his Festschrift [Internationale Beiträge zur wissenschaftlichen Medicin. Festschrift. Rudolph Virchow, gewidmet zur Vollendung seines 70 Lebensjahres. 3 V. roy. 8°. Berlin, 1891]. His international reputation was no doubt largely due to his winning personality and literary power as well as to his investigative talent.

One of the most pleasing of the many praiseworthy features of Virchow's life is the humanitarian side of his work. Beginning with his investigations on famine fever among the poor inhabitants of Upper Silesia, in 1848, Virchow has always given largely of his energies

and his interest to the promotion of the welfare of the masses. His contributions to the science of public hygiene are among the most notable of his works. Among them may be mentioned his articles on the drainage and sewage disposal of the city of Berlin, his various papers on military hygiene, on school hygiene, on the German household, and on disinfection. He made a special study of the best forms of exercise for the development of German youth. He has always been friendly to the higher education of women. For many years he has occupied a seat in the Reichstag and has taken a most active part in the government in connection with medical and veterinary affairs.

In his relations to life in general, as well as in practical politics, he has remained consistently a pronounced democrat. While a loyal German, he is a devotee of the cult of humanity. A citizen of the world, he does not belong to any one country.

Virchow has this year been especially honored by the Emperor of Germany and the King of Italy. The medical men of the civilized world have vied with one another in paying him homage. His life is an illustrious example of what a great man may accomplish by devoting his talents, time and energy to the scientific side of medicine. The results of his work and the remarkable personality of the man have made many others attempt to follow in his footsteps; a public need for workers in pathology has gradually developed until to-day pathology affords a career for many of the best men in our profession. Rich men are giving large sums of money toward medical research and the outlook for the future of pathology is bright. To none other of his age has it been vouchsafed to do more in the reshaping of medical thought and opinion than Rudolph Virchow.

CELLULAR PATHOLOGY IN THE PAST AND IN THE FUTURE.

It will not be amiss, at this time of celebrating the eightieth birthday of Virchow, to call attention to the fact that a new era in medicine began in the middle of the last century when the cellular structure of living organisms and of many pathological products became understood. The era was introduced by the demonstration of the cellular structure of plants by Schleiden, in 1838, and of animals by Schwann, in 1839. The rich fields of investigation thus thrown open for cultivation were soon appropriated by eager German investigators, and pre-eminently by the now so venerable Virchow and his numerous and enthusiastic pupils. Virchow may be said to have begun his work in 1840, and in a remarkably short time he not only made an end to the domination of medicine by the unfounded conceptions of the old humoral pathology, which had held sway for some two thousand years, but he also laid the foundations of a new pathology, the cellular pathology, upon the basis of which a mighty superstructure has been built. This was accomplished partly by destructive criticism of the old doctrines of dyscrasia, partly by showing that cellular proliferation never takes place from unorganized blastema, but only from pre-existing cells. The famous phrase of 1855, *"Omnis cellula e cellula,"* sounded the death-knell of the old humoral pathology and the birth of the new, cellular pathology.

As stated elsewhere, Virchow is the founder of pathological histology. He demonstrated that as all normal tissues consist of cells, so do cells play the essential part in pathological tissues and pathological products, and he traced the processes of disease to cells and to cell families. This is the kernel of the cellular pathology as it is developed in his celebrated lectures in Berlin in 1857 on "Die cellulare Pathologie in ihrer Begründung auf physiologischer und pathologischer Gewebelehre."

Of fundamental importance to the development of cellular pathology and of modern medicine as a whole is Virchow's masterly organization of the teaching and the investigation of pathological anatomy, which resulted in the establishment in Berlin and later in connection with all German universities of the pathological-anatomical institutes, or laboratories, which the whole medical world long ago has come to recognize as indispensably necessary for teaching and research in medical science. His official report setting forth the essential necessity and the scope of such establishments with the various subdivisions, such as the chemical laboratory, the pathological museum, although written in 1846, might well serve as a guide for many institutions in this country that now are beginning to plan in real earnest the foundation of medical departments upon a permanent basis commensurate with their importance. Fortunately this report is within easy reach as it is printed in Virchow's *Archiv,* 1900, clix, pp. 24-39. In this report Virchow can not sufficiently emphasize the weight that should be placed upon pathological physiology.

Under the leadership of cellular pathology many have thought—and probably with good reason—that the study of pathological histology has been carried too far. Because some of its followers seemed to think that they could reach the innermost secrets of disease by morphological methods, they did not hesitate to utilize histologic structure as the principle of classification and subdivision of pathological processes. This one-sided overestimation of the results of microscopic examination valuable and important though they may be; the failure to recognize the greater importance of etiology, which is seen in some of the teachings of the Virchow school in regard to inflammation, e. g., the dualistic doctrine of tuberculosis; as well as the comparatively few directly valuable results in practical therapeutics, have tended to bring a measure of discredit upon cellular pathology. But this tendency to overestimate cellular pathology in the narrow sense is being counterbalanced by the brilliant discoveries in bacteriology and the great progress in the knowledge of the causes of disease of more recent times. Pasteur's demonstration that infectious diseases are

caused by micro-organisms inaugurated a still newer era in medicine with developments of fundamental import for pathological anatomy and all other branches of medical science.

That the cellular hypothesis has helped greatly to elucidate the phenomena of life both under physiological and pathological conditions no one would gainsay, but it must not be forgotten that forms are inseparably connected with and dependent upon questions of force—"every form is force visible"—and cells are, as Huxley has it, not the cause but the results of organization and therefore not the only and ultimate object of biologic investigation. Virchow himself has said that the trained pathological anatomist can not deal with the product without searching for the mechanism through which it has resulted, and for the conditions under which the vital processes have suffered this or that deviation in their course. The essential significance of physico-chemical processes in biological phenomena is becoming daily more manifest. The study of the forces that lie behind structure and form—the rôle in physiological and pathological processes of molecules and ions, of enzymes, of osmotic pressure, of chemical equilibrium, and other factors—is about to erect a molecular pathology by the side if not in the place of the cellular pathology that now so largely governs our conceptions of disease. Indeed, it is along physico-chemical lines that we must look for the explanation of many phenomena, normal and abnormal, phenomena the existence of which may be made known but not explained by morphologic methods. And it is probably in this field that the present century will bring its farthest reaching achievements in physiology and pathology.

OFFICIAL REPORT ON PRESIDENT M'KINLEY'S CASE.

We publish this week the official report on President McKinley's case, signed by all the attending physicians and surgeons. It is very complete even to minor details, and a careful reading must convince the most critical that the case from the beginning was well managed and that no adverse, retrospective criticism is possible. The report shows that the charges as to poor judgment used in the administration of solid food, in failure to find the bullet both during the original operation and at the autopsy, in the non-use of the *x*-ray and of drainage, can not be sustained. The main interest of the report centers in that which pertains to the autopsy and the examination and deductions therefrom. This part of the report is the important part of the document, as it is bound to excite interest not only because of its disclosures, but as well because of what it fails to disclose.

In the case of the wounds of the stomach effective closure had been secured by means of stitches which had become re-enforced by adhesions both anteriorly and posteriorly. Both wounds were found surrounded by areas of discolored and softened tissue which had lost its microscopic structure. The cause of this change is not at all evident. In his summary the pathologist suggests its terminal nature and the cause as lowered vitality. It appears hardly necessary to offer an explanation of so general character as "lowered vitality."

There seems to be no essential reason why these changes may not have resulted from the action of the gastric juice and that they were of the nature of post-mortem digestion. The area of discoloration on the surface of the mesocolon which came directly in contact with the wound on the posterior gastric wall was of a dull gray color, indicating a diffusion into it of the same substance or substances as may have caused the discoloration and softening in the tissues about the wounds in the stomach. There is no statement in the report of the condition of the interior of the stomach; it is not mentioned whether or not the stomach was opened; and it is unfortunate that opportunity was not given to freely examine the areas about the wounds by means of a large number of microscopic sections extending freely across the entire area including the stitches. Bacteriologic examination of the tissue about the wounds, either by culture or by the staining of sections, is not mentioned in the report; hence the influence of bacteria that possibly may have been present can not be excluded altogether. At all events the changes found immediately about the wounds in the stomach do not appear to have had any recognizable influence at all upon the fatal ending.

The pancreas contained "numerous minute hemorrhages and areas of gray softening, the size of a pea or smaller." As stated in the report the absence of fat necrosis shows that there was no diffusion of pancreatic ferments into the surrounding tissues, except possibly into the cavity behind the stomach. It is particularly unfortunate that a more thorough examination could not have been made of the pancreas. The lesions described can not be regarded otherwise than as of significance, but in the absence of both bacteriologic and histologic examination their exact cause and nature remain conjectural. It is very easy to suggest that the foci of softening in the pancreas may have contained bacteria whose products when absorbed gave rise to serious general effects. We lack information also as to the nature of the greenish-gray thick fluid, a few teaspoonfuls of which ran out into the peritoneal cavity from "a point just beneath the mesocolon," and which does not seem to have come from the cavity behind the stomach.

The destructive fatty infiltration of the walls of the right ventricle will be found generally acceptable as explaining at least in part the character of the action of the heart during life. The diffuse fatty changes of the heart muscle fibers proper will most likely be regarded as the result of some form of intoxication.

The bacteriologic examination, though not yet completed, seems to exclude the presence of "known pathogenic agents," at least in the track behind the stomach and in the general peritoneal cavity. But cultures were not made from the spleen, the liver, the kidneys, the

lungs, or the pancreas. Cultures (presumably only aërobic) from the heart's blood remained sterile. Staphylococci and an unidentified anaërobic, gas-forming bacillus were isolated from the abdominal wound, both during life and after death, but the question of their actual general pathogenic influences will probably be open to various interpretations.

The absence of any mention in the report of the actual condition of the adrenals, the interior of the intestines, etc., and the lack of sufficient material for extended further investigations, as well as the failure to find the bullet, are plainly attributable to circumstances over which the pathologists had no control. While the circumstances under which the autopsy was made prevented the thorough, all-embracing examination that would have been necessary to throw the fullest light upon the many and complicated problems in the case, enough was learned to place the surgical treatment above all criticism of even the most censorious scrutinizer.

THE HEALTH OF THE ARMY.

The report of the Surgeon-General of the Army, which has just been received, contains some interesting details. Notwithstanding the fact that the active service of the Army is in the tropical regions, which are generally supposed to be more trying in a sanitary point of view than temperate ones, its general health for the year 1900 has been excellent. The higher rates of mortality were among the volunteers in the Philippines, thus showing that this type of service has its disadvantages from a sanitary as well as from other points of view. In Cuba the mortality ratio for 1900 was little more than one-half that of the preceding year and, but for the occurrence of yellow fever, would have been still further reduced. There were 144 cases of this disease, of which 32 were fatal. In Porto Rico the death-rate was the lowest, 5.05 per 1000, ever recorded in the army. This may perhaps be in part accounted for by the fact that a portion of the troops there belong to the native regiment and, besides being thoroughly acclimated, are probably placed under better sanitary conditions than even before their enlistment. It points, nevertheless, to the fact that Porto Rico has a healthy climate for a tropical possession. The largest death-rate naturally was in the details for Chinese service and most of this from casualties of active service.

Since the close of the calendar year 1900 the health of the troops in the Philippines has been steadily improving, and the decrease has been noted not merely in the non-efficiency from disease, but also in that from injuries. From January to June, 1901, the non-efficiency was less than 7 per cent., which is certainly a fair showing for the tropics. Smallpox, which was a serious matter in the early occupation of the islands, has been almost entirely suppressed; typhoid fever appears now only sporadically, and bubonic plague which has prevailed among the Chinese and Filipinos has given no anxiety whatever to the army medical authorities. Malaria and dysentery have exceeded the average of the past in all sections and have particularly prevailed in the Philippines, especially among the volunteers during 1900.

Venereal diseases were a cause of inefficiency to an increased extent in all sections, Porto Rico taking the lead, where the excessive ratio of 367.88 was recorded; in this it approached the British Indian army figures. In the volunteers in the Philippines the average (79.94) did not very greatly exceed the army average for the decade 1889-1898 before the Spanish war (71.45). Alcoholism, on the other hand, appears to be decreasing, the admission rate from this cause for the whole army during 1900 being 15.34 as compared with 28.67 per 1000 in the pre-Spanish war decade. This is perhaps partly due to a better grade of men in the service; Dr. Sternberg credits it to the establishment of the canteen, which he thinks induces to temperance. Here, also, the volunteers in the Orient showed to advantage with their ratio of only 8.68, as compared with the 12.41 of the regulars; but both are well below the general army average. Our troops in China gave a still lower figure, and the record of troops in insular and foreign service generally does not justify some of the sensational statements that have been sent out by portions of the public press.

The yellow fever investigation in Cuba and the excellent work done by the army in the study of tropical diseases in the Orient are duly mentioned. The former alone is sufficiently important in its results to make the year memorable in the history of medicine as well as in the army records. The researches in regard to dysentery and other diseases of the tropics, while less striking in their results so far, are hardly less important and it is satisfactory to note that our army medical department is doing such good work in these directions. The report gives data in regard to the personnel, and it appears that the medical corps is gradually filling its vacancies, but there has still to be a large force of contract surgeons employed. Many of the successful candidates for commissions were from this class, which seems, therefore, to be, in a way, an army medical school. It is a pity, however, that in times of nominal peace the army medical corps is still so restricted by law as to make the employment of contract surgeons necessary.

CONTROL OF LEPROSY.

The Molokai leper settlement, according to reports, is decreasing in population. Five years ago there were 1300 lepers, while now there are barely 900. The general cleaning out of the lepers from the other islands and their transference to Molokai since the downfall of the Hawaiian monarchy, has affected the source; there are fewer cases of the disease among the general population, and, therefore, less chance of its spread. Last year an even hundred lepers were sent to the settlment; thus far in the present year not much over 50 have been found to recruit its waning membership. Since annexa-

tion still stricter rules have been adopted and it seems probable that we may soon see this famous aggregation of this most loathsome disease become insignificant as compared with its past. There is a chance for another to take its place, however, in the Philippines where the lepers, it is said, number many thousands and where there has been practically no attempt whatever to segregate them thus far. In Hawaii leprosy appears likely to be helped along in its decadence by the dying out of the native race, but this is hardly likely to be the case in the Philippines. Whether, with thorough means of isolation and prevention, it can be altogether eradicated in the tropics is one of the chief medical problems of the future.

NEW YORK STATE MEDICAL ASSOCIATION.

The next meeting of this Association will be held in New York City, October 21 to 24, and promises to be one of the largest in the history of that Association. The program is an excellent one and can not but attract an attendance, not only from Greater New York but from the whole state. This Association now has over 1600 members in good standing. Its rapid growth under the new Constitution can be appreciated when it is understood that over twenty new county associations have been organized during the past year.

LOOKING BACK.

On the fifth of this month our esteemed contemporary, the London *Lancet*, celebrated its seventy-eighth birthday by reprinting the leading editorial in the initial number of that journal. The first issue was dated October 5, 1823, and the present editors propose to reprint each week a selection from the corresponding number of seventy-eight years ago. It seems strange that in the pious city of London a weekly medical journal such as the *Lancet* should have appeared dated Sunday and not Saturday, but such is the fact, and for some months the issuing date was Sunday. If the selections to be made show the vast advance in medical knowledge in the last seventy-eight years they will certainly be interesting, if not instructive. The first editorial is really a preface or announcement, but the editor makes no apology for the appearance of a medical weekly. "It has long been a subject of surprise and regret, that in this extensive and intelligent community there has not hitherto existed a work that would convey to the Public, and to distant Practitioners as well as to Students in Medicine and Surgery, reports of the Metropolitan Hospital Lectures," is the first paragraph. Attention is called to the lectures then being delivered by Sir Astley Cooper of St. Thomas' Hospital, and these are referred to as being the best of the kind delivered in Europe. The first, or introductory lecture, by Sir Astley Cooper, appeared in the first number of the *Lancet*. It was the printing of the metropolitan hospital lectures which, later on, got the *Lancet* into so much trouble, the lecturers protesting at having their private lectures, through which they made money, become public property. Evidently the views held by Mr. Wakly as to the functions of his new weekly were a little vague, for in the concluding paragraph of his editorial he says that, "we shall be indefatigable in our exertions to render the *Lancet* a complete Chronicle of Current Literature." We shall await with curiosity and interest for the forthcoming excerpts from the early numbers of the oldest medical weekly in the world.

MILK SUPPLY IN NEW YORK.

Milk is one of the most important of human foods and also one most liable to contamination between the producer and the user. Hence the complexity of the question as to a pure milk supply and the special interest to the profession of a recent report that has just been given out, by a commission of New York physicians, of which Dr. Henry Dwight Chapin is the head. The method adopted was to establish a bacterial standard of marketable milk, making the bacterial contents per cubic centimeter the index of purity. The leading milk-dealers were invited to co-operate and some of them have apparently aided materially in the investigation, adopting the suggestions made by the commission and showing generally a readiness to carry out what measures were necessary. The need of such was made sufficiently evident by the first test of milk taken directly from the dealers on a mild November day, when the bacterial contents of the samples ranged from 13,000 to 2,800,000. On a warm June day the following summer in six samples taken at random it ranged from 520,000 to 216,000,000. These are mentioned as from the better grades of milk used in New York. Over eight hundred bacteriologic examinations were made and some thirty visits to dairies, some of them a distance of 180 miles from the city. The condition of the barns, the cows, the milkers, the utensils, cooling processes, and transportation and the condition of the cans or vessels when returned from users were all taken up and studied in detail. Each of these was found an important factor, the mere fact of a pile of dry feed left near a cow making in one instance a difference of nearly a million germs in the milk per cubic centimeter. On the other hand, with due care as to all these points, the microbes could be reduced to a few hundreds or thousands and well within the limit of 30,000 per cubic centimeter established as a standard. The commission found that young single men, being less liable to carry infection from home, were preferable as milkers and it was advised that they be clean shaven. Nothing is said about milkmaids, but it would appear that a return to the ways of former times in this regard might furnish the ideal—sanitary as well as esthetic. Much importance is given to the methods of aërating and cooling as well as to the care of bottles or cans after delivery. It is easy to see how one sinner in this respect can destroy much good and neutralize all the care of his predecessors. The work has had its educational value and in every case the dealer has been able to reach the standard of the commission without great expense by following directions. Many who have not before co-operated are now making the required changes and asking for the certification of their product. The commission furnishes a special label for certified milk, which is a guarantee of its purity to the purchaser. Of course, it does not always follow that bacteria in milk are necessarily always

deadly, but they have no business there in great numbers and the given test is probably the best that can be devised for the wholesomeness of the milk. This investigation has demonstrated that with proper care they will be absent, and has shown a way to insure the public against very obvious dangers. It suggests, also, other ways in which our profession can protect the public health and make for sanitary righteousness.

Medical News.

CALIFORNIA.

Huntington House a Hospital.—The San Francisco mansion of the late Collis P. Huntington, on Nob's Hill, is to be converted into a charity hospital by Mrs. Huntington.

To Examine Teachers.—The San Francisco Board of Education has appointed Drs. Henry Gibbons, Jr., and Lois Nelson to make a physical examination of the recently-elected schoolteachers.

University Medical Department Changes.—The regents of the State University have appointed Dr. Leo Newmark, now lecturer on neural pathology, professor of neurology, and Dr. Robert Orton M. Moody, assistant in anatomy.

Medical Examiners Sustained.—The application of Dr. J. J. Cowden, a graduate of the "Pacific Coast Regular College of Medicine," San Francisco, an institution held by the Board of Medical Examiners to be not in good standing, for a writ of mandamus compelling the Board to issue to him a certificate to practice medicine was denied, October 3, by Superior Judge Hunt.

Personal.—Dr. F. J. S. Conlan, Nevada City, has located in San Francisco.——Dr. Elizabeth M. Yates, Woodland, has moved to Santa Rosa.——Dr. Cephas L. Bard, Ventura, who has been critically ill, is improving.——Dr. Theo. C. Rethers, San Francisco, has been appointed chief visiting surgeon at St. Mary's Hospital, vice Dr. Alexander T. Leonard, resigned. Dr. Charles D. McGettigan, has been appointed to the visiting staff of the hospital.——Dr. John E. Purdon, Turlock, has located in Stockton.——Dr. Guy P. Corwin, Santa Monica, has moved to Pomona.

GEORGIA.

Major William D. Crosby, surgeon U. S. Army, has been ordered for duty at Fort McPherson, Atlanta.

Dr. **Harry M. Clarke,** Atlanta, was injured by falling into an elevator shaft, October 7, spraining his back and his ankle.

An examination for license to practice medicine in Georgia was held by the State Board of Medical Examiners at Atlanta, October 8, 26 applicants, including one woman, being examined.

Georgia Pasteur Institute.—The first annual meeting of the Georgia Pasteur Institute was held in Atlanta, October 4. Twenty-two cases had been treated; fifteen proved to have been bitten by rabid dogs, by inoculation and death of other animals. All improved under treatment and are now well. The institute is now well established and free from debt. The following board of governors and officers were elected: Dr. Henry R. Slack, La Grange, president; Dr. James H. McDuffie, Columbus, vice-president; Dr. Charles D. Hurt, Atlanta, treasurer; Dr. Claude A. Smith, Atlanta, secretary and pathologist; Dr. James N. Brawner, Atlanta, physician in charge, and Dr. Ernest P. Ham, Gainesville; Dr. Madison M. Holland, Statesboro, Mr. Benjamin W. Hunt, Eatonton, and Mr. George C. Waters, Atlanta, governors.

ILLINOIS.

Communicable Diseases.—Typhoid fever is prevalent at Champaign. Smallpox has appeared in Neponset and Venice, Madison County.

New Peoria Hospital.—The new St. Francis Hospital, erected at Peoria, at a cost of $115,000, was thrown open to the public, October 10. The formal dedication will occur next month.

Personal.—Dr. John H. Mannon, Kewanee, returned from a six-weeks' trip to Europe, October 4.——Dr. George S. Henderson, Holcomb, has returned from a visit to Canada.——Dr. James A. Glenn, Ashland, has been appointed a member of the State Board of Charities.

Counties Must Pay Smallpox Bills.—The attorney general has rendered an opinion that counties are liable for all expenses in connection with the care and treatment of smallpox patients, with the exception of the expenses of enforcing quarantine regulations, for which expense the cities are liable.

Chicago.

Rapidly Regained Reason.—Dr. Armstrong, now undergoing sentence in Wheaton jail on account of his connection with the diploma mill frauds, petitioned recently for release from jail on account of rapidly failing mental and physical health. A marked improvement is reported to have followed the suggestion by the district attorney, that if removed from Wheaton he would be sent to the Government Insane Asylum at Washington.

Personal.—Drs. N. Senn, Daniel R. Brower and Jacob Frank landed in San Francisco, October 14, and reached Chicago three days later, from their trip around the world.——Dr. F. M. Adams, interne of Wesley Hospital, has been compelled to seek a change of climate. He has been seriously ill with pleurisy.——Major Henry I. Raymond, attending surgeon, Headquarters Department of the Lakes, has been ordered to duty in the Philippines. He will be relieved by his brother, Major Thomas N. Raymond.——Dr. G. Frank Lydston has been elected a member of the Kauai Kodak Klub of Koloa Kauia, Hawaiian Islands.——Dr. James M. Phelan, an interne in Cook County Hospital, has passed the Army Medical Board examination.

A Typhoid Fever Year.—The current Bulletin of the Health Department says that this first year of the new century promises to be a typhoid fever year. From all parts of the United States come reports of an unusual increase of the disease; in the large cities "Public Health Reports" all show more than the usual autumnal increase. In this city the record of typhoid mortality for the third quarter of the year (July, August and September) shows an increase of 273 per cent. over that of the first six months; that is, from 0.90 per cent. of the total mortality between January 1 and June 30 to 3.36 per cent. of the total mortality between July 1 and September 30. The average autumnal increase in this region is about 70 per cent., so that Chicago's fall increase this year is very nearly four times greater than usual. This enormous increase is, however, to some extent relative, owing to the fact that the typhoid mortality of the first six months of the year was the lowest on record since records have been kept—only nine-tenths of 1 per cent. of the total mortality, as against a previous average of nearly 1.6 per cent. during the previous five years.

INDIANA.

Communicable Diseases.—Smallpox is reported from Coldwater and Richmond; Vincennes has 40 cases of typhoid fever, and four cases of diphtheria are reported from North Judson.

Personal.—Dr. R. O. Tidrick has moved from Bringhurst to Marion.——Dr. H. E. Phares, Morristown, will locate in Shelbyville.——Dr. Herbert O. Statler, Goshen, has moved to Kalamazoo, Mich.

Smoke for Consumption.—Dr. George R. Peckinpaugh, Mount Vernon, is reported to have discovered that inhalation by the patient of the fumes or smoke from the burning of a mixture of various kinds of forest leaves kills the bacilli in the lungs. The Evansville Board of Health is carrying on experiments with this treatment on the consumptive patients at the County Poor-House.

IOWA.

Diphtheria is so prevalent at Reinbeck that it has been deemed necessary to close schools and churches.

An isolation hospital site at Dubuque has been offered the city by Alphonse Rhomberg, well located and with good drainage.

Bequest to St. Luke's Hospital.—Davenport is to receive a bequest of $3000 from Mrs. M. Dawes, Brooklyn, N. Y., as a tribute of respect and affection to the memory of her aunt, the late Mrs. Frances M. French, Davenport.

Personal.—Dr. W. P. Burke, Iowa Falls, leaves in December for a year's study in Europe.—Dr. F. R. King, Anita, has purchased the practice of Dr. F. C. Mitchell at Kenwood Park, Cedar Rapids, and has moved to that place.——Dr. John W. Hemsted, Carson, who has been in ill health for two years, has so far improved that he will soon resume practice.——Dr. Homer J. Gilfillan, Trenton, has moved to Mount Pleasant.——

Dr. Fred L. Wells, Des Moines, has located in Hartford City, Ind.

KENTUCKY.

Epidemic Diseases.—Smallpox is reported near Preston and at Wasiato; diphtheria in malignant form is prevalent in Covington and in Garrard County; and scarlet fever at Bethel, Burgin, Mount Sterling and Maysville, where the public schools have been closed.

Personal.—Dr. Charles E. Thompson has returned to Covington and resumed active practice.——Dr. H. L. Farris, Kingston, has located in Memphis, Tenn.—Dr. George W. Norman, Uniontown, has moved to Owensboro.——Dr. William R. Thompson, Mount Sterling, sustained serious injuries October 10 in a runaway accident.

Examination of Water.—Dr. J. E. Cashin, Louisville, will receive $500 for his services to the city for the examination of the water supply of the city and the water of the river at the waterworks pump to determine whether the sewage of Lakeland Asylum was contaminating it. It was decided that the sewage was a constant menace, and steps are being taken to erect a plant for the destruction of the sewage and the cleansing of the bed of the creek.

License Required in Louisville.—An ordinance has been introduced into the Louisville Common Council requiring all applicants for license to practice medicine and dentistry in the city to show a certificate from the State Board of Health and requiring a license fee of $10 to be paid in advance. The rule in the case of dentists is modified, requiring them to exhibit a diploma from a reputable college of dentistry. The city attorney explained that the object of the ordinance was to prevent unqualified men from being granted licenses.

MARYLAND.

Dr. T. W. Simmons, former health officer of Hagerstown, has brought suit against that city for $330 alleged to be due for salary.——Dr. J. C. Hummer, on the occasion of his 69th birthday, was tendered a surprise reception by Eureka Lodge, Ind. Order of Good Templars, and was presented with a handsome watch, chain and charm.

Baltimore.

A bazar for free beds in the Franklin Square Hospital of the Maryland Medical College, opened at the Hospital Building on October 14.

The deaths for the week ended October 12 were 160, being a rate of 16.6 per 1000 per annum—white 13.50, colored 30.28. Only 6 deaths were from typhoid fever.

Anti-Mosquito Ordinance Defeated.—Councilman Brown's ordinance appropriating $15,000 for the destruction of mosquitoes was defeated in the city council.

No Smallpox in Baltimore.—There are no cases of smallpox in Baltimore at this time, it being practically the only large Eastern city free of the pest. There are 5 cases in the counties.

Nurses' Home.—Work has been begun on another story and a roof garden on the Nurses' Home at the University of Maryland, owing to an increase in the number of nurses recently from 34 to 40. The work will be completed in six weeks.

Johns Hopkins Hospital Historical Club.—The first session of the Johns Hopkins Hospital Historical Club for the season was held October 14, when the following papers were read: "Jacob Bigelow," by Dr. James G. Mumford, of Boston; "William Hunter's Medical Library," by Dr. William Osler.

Opposition to Isolation Hospital.—Much opposition is manifested to the selection of the site for the Infectious Diseases Hospital in the northern part of the city near Druid Hill Park. The residents of that section are agitating the matter. The city council has threatened to withdraw the appropriation.

Northeastern Dispensary.—The new building of the Northeastern Dispensary is under way. When completed it will cost about $5000, and equipment will cost $1000 additional. Founded in 1853, this institution has occupied the same quarters ever since, although enlarged several times. The structure will be 26 by 60 feet, with brick walls, and two stories high. The first floor will contain four private consultation rooms and a large waiting apartment with seating capacity for 100 persons. On the second floor there will be two consultation rooms and another waiting room. The present staff of three resident and three consulting physicians will be increased to twelve. The institution is supported by voluntary contributions and city appropriation.

Personal.—Dr. J. Frank Crouch has returned from Europe.——Drs. William Osler and William H. Welch attended the meeting held in New York on October 12 in honor of Professor Virchow's 80th anniversary, the former being the chairman of the meeting. Both responded to toasts, the former on "Virchow as an Archeologist and Hygienist," the latter on "Virchow as a Pathologist."——Dr. Thomas S. Cullen has returned from his wedding trip.——Dr. Albertus Cotton has returned from a visit to friends in Ohio.——Dr. E. Boeninger sailed for Bremen on October 8.——Dr. David A. Medders has returned after a long visit to the Eastern Shore of Maryland.——Dr. Robert Love has returned after several months spent abroad.——Dr. Malcolm Morris, of England, lectured last week at the Johns Hopkins University, on "Medical Endowment."——Dr. Howard A. Kelly gave a reception to the Hopkins Young Men's Christian Association, at his house on Eutaw Place, October 11. The naval militia practice ship *Sylvia,* with Dr. Edward Geer in command, returned from Hampton Roads, October 7.

Johns Hopkins Report.—According to the annual report of the Johns Hopkins University just out, there were 651 students enrolled, 270 of these being from Maryland and 17 from foreign countries. There were enrolled in the medical school 209, all college graduates. Of the 143 professors and instructors, 58 are in the medical school. Last year 41 received A.B., 53 M.D. and 30 Ph.D. Since the institution began 4089 students have entered, 1617 being from Maryland. The whole number of medical degrees so far conferred is 166. A considerable part of the report is devoted to the proposed change of site. Wealthy citizens have offered 176 acres of most desirable land immediately adjoining the city on the north, provided $1,000,000 in money be raised by subscription. Efforts are to be made to secure this valuable property for a permanent location. Dr. Henry M. Hurd, superintendent of the hospital, contributes a letter describing the work of the commission of four medical men from the university who were sent to the Philippines to study tropical diseases. The Baltimore Association for the Promotion of University Education for Women has presented $800 for a fellowship in the medical school for the coming academic term, and Dr. Florence R. Sabin, a graduate of 1900, has been selected by the medical faculty as the first incumbent. Dr. Joseph R. Ames has been made director of the department of physics, made vacant by the death of Prof. Henry A. Rowland.

MICHIGAN.

"Dr." William F. Winney, Stark, was fined $10 and costs by a Northville justice, October 5, for practicing medicine without a license.

Personal.—Dr. Beverley D. Harison, Sault Ste. Marie, is visiting the Buffalo Exposition.——Dr. A. C. Wood, Glendora, has located in Coloma.——Dr. E. M. Herdman, house surgeon at the General Hospital, Sault Ste. Marie, has gone to Ann Arbor.——Dr. Arthur McGugan, formerly of the staff of the State Hospital for the Insane, Kalamazoo, has moved to Denver, Colo.——Dr. Sumner A. Edmands, Mendon, has purchased a practice in Goshen, Ind.

Mortality of Michigan.—There were 2886 deaths returned to the secretary of state for the month of September, corresponding to an annual death rate of 14.7 per 1000 population. This number is 214 more than the deaths returned for August, but is more than 400 less than the number recorded for September, 1900. There were 714 deaths of infants under one year of age; 262 deaths of children aged from 1 to 4 years, inclusive, and 697 deaths of persons aged 65 years and over. There was a marked increase in the number of deaths returned from typhoid fever and from diphtheria as compared with the preceding month.

Cornerstone Laid.—On October 15 the cornerstone of the new medical building of the University of Michigan, Ann Arbor, was laid with appropriate ceremonies. Dr. John A. McCorkle, Brooklyn, of the class of 1873, gave an address under the auspices of the Students' Medical Society; Hon. Herman Kiefer, chairman of the Committee on the Department of Medicine and Surgery, then introduced Dr. Leartus Connor, president of the Michigan State Medical Society, under the auspices of which the cornerstone was laid, who addressed the assembly. President James B. Angell and Dr. J. George Adami, Montreal, also delivered addresses, and in the evening a reception was given to the invited guests in the rooms of the Alumni Association.

NEW YORK.

The **State Board of Health** will give a hearing, October 15, at Yonkers, on a complaint that the Yonkers Railway Company is creating a nuisance by the use of soft coal.

Personal.—Dr. Wilhelm H. Keller, Spring Valley, has opened an office in Haverstraw.——Dr. W. F. Cregg, Norwich, has returned to Camillus.——Dr. Oliver A. Brumenthal has been appointed to examine into the physical condition of the school children of Syracuse.

New York State Medical Association.—The eighteenth annual meeting of this Association will be held at the Academy of Medicine, New York City, October 21 to 24 inclusive. In addition to a program containing many papers of merit, symposia on "Malignant Growths" and on "Arterio-Sclerosis" will be held. The annual dinner will be given in the evening of October 23, at the Murray Hill Hotel.

August Mortality.—There were 10,999 deaths in the state during August, according to the monthly bulletin of vital statistics issued by the State Board of Health. The number of deaths this month is 1300 less than July, which was excessive. The only material decrease from that month was, however, in deaths from accident and violence; there were five deaths from lightning. Typhoid fever increased from last month in all the districts, and diphtheria to a small extent; all local diseases have caused fewer deaths. Deaths from acute respiratory diseases have fallen to 500, which is low even for this month, the month of its smallest mortality; 280 of the deaths were from pneumonia. Outside of New York City there were 210 deaths from Bright's disease. Smallpox caused 40 deaths, all in the maritime district, and since August 1, cases have been reported at Scheneous and Tupper Lake, one each, two at Hillburn, three at Ellenville.

Buffalo.

Dr. **Jacob Otto** has been appointed assistant surgeon to the 74th Regiment, N. G., N. Y.

Dr. **Ralph Harris** has accepted the position as an instructor in anatomy at Cornell, Ithaca.

Dr. **W. W. Carlton,** Waterloo, N. Y., has received the appointment of junior house physician at the German Hospital.

Dr. **Casey A. Wood,** Chicago, read a paper on "Exophthalmic Goiter; Its Symptoms, Diagnosis, Pathology and Treatment," before the Ophthalmological Section of the Buffalo Academy of Medicine, October 14.

Personal.—Dr. Herman Mynter is in New York.——Dr. Herman G. Matzinger has returned to the city.——Dr. J. C. Schrader, Iowa City, Iowa, and Dr. S. W. S. Toms, Nyack, N. Y., were guests of Dr. Thomas G. Allen.——Dr. Max Einhorn, New York, was the guest of Dr. Charles G. Stockton.

New York City.

University Medical School has received a donation of $25,000 from a benefactor, who wishes his name withheld.

Inspectors of Vaccination.—The Brooklyn Board of Health has appointed nineteen physicians as inspectors of vaccination in the public schools.

Medical Institute Plans.—The following tentative working plan has been adopted by the officers of the Institute for Medical Research: To expend $20,000 a year, divided so as to provide for forty scholarships. To make appointments for one year. To have candidates recommended by heads of various laboratories to the Board of Directors. To choose only persons pursuing, or about to pursue, investigations on some important subject in pathology, bacteriology, or hygiene.

Test of Koch's Theory.—Interesting experiments of much importance are being made at the bacteriological laboratory of the **Board of Health.** They are being held to test Prof. Koch's theory that human tubercle bacilli will not readily infect cows or calves. So far the experiments have shown the theory to be correct, it is said. All the calves reacted to a tuberculin test, but the reaction was very slight, and may have been due to inflammation or other causes considered by the investigators at the laboratory to be of minor importance.

TENNESSEE.

A **typhoid epidemic** is raging at Jamestown, Fentress County, a place of about 200 inhabitants. There are now 25 cases, with 2 deaths.

Tennessee Medical College, Knoxville, held its thirteenth annual opening exercises, October 1. Dr. Charles P. McNabb, dean of the faculty, delivered the opening address.

Scarlet Fever.—Scarlet fever has been reported during the past month from seventeen counties, to the State Board of Health. Greenfield, West Point, Columbia, Gallatin, Saundersville and Shelbyville, all report cases.

Vanderbilt University Medical Department, Nashville, began its year's work, October 1, with a freshman enrolment of 75. Addresses were delivered by the chancellor of the university, and Dr. William L. Dudley, dean of the medical school.

Personal.—Dr. John Brown has been appointed assistant physician at Lyons View Asylum, Knoxville.——Dr. Douglas Haggard has returned to Nashville, after a stay of three years in New York.——Dr. W. W. Parker, Smithville, has resigned his position as pension examiner.——Dr. William W. Hill, Chattanooga, has moved to Dunlap.——Dr. Garland F. Cummins, Bellwood, is reported to be ill with smallpox.

Smallpox Statistics.—At the semi-annual meeting of the State Board of Health, the secretary reported that between April 1 and September 12, there had occurred a total of 2059 cases of smallpox in the state, with a total of 94 deaths, showing a death-rate of 4.56 per cent. Of these cases, 816 were white and 1210 colored. There were 54 cases of smallpox on hand at the time of the report, located in eleven counties. From the lay local press we learn that smallpox is present in Dalton, Bellwood, Jackson, Hollywood, Chattanooga and Rossville.

WISCONSIN.

Tear Down the Signs.—Much difficulty is being experienced in the vicinity of Kubia, where smallpox exists, by the attitude of the farmers, who object so strongly to the yellow placards that in some cases they have torn them down.

Honor Virchow.—Milwaukee physicians gave a dinner, October 12, at the Republican House, in celebration of the eightieth birthday of Professor Rudolph Virchow. A loving cup and congratulatory address, signed by those taking part, were sent to him.

The State Board of Medical Examiners held its last quarterly examinations at Oshkosh, beginning October 8, and examined twenty-two applicants for certificates to practice. The next examination will be held at the Hotel Pfister, Milwaukee, January 14.

Fire at Insane Hospital.—A fire, supposed to be originated by spontaneous combustion, started in a coal shed at the Northern Hospital for the Insane, at Oshkosh, October 5, and for a time threatened the entire institution. The roof of the morgue, a carpenter shop and 3500 tons of coal were destroyed, but no one was injured.

Scarlet Fever and Diphtheria.—There are 12 cases of scarlet fever at West Superior.——At Oshkosh there have been reported from September 1 to October 4 in all 26 cases of scarlet fever and 34 cases of diphtheria. The spread of these diseases is general in the city and the health officer fears an extensive epidemic of both diseases.

Personal.—Dr. George A. Barker, Shell Lake, will take the practice of Dr. H. M. Read, at Menomonie. Dr. Read will go abroad to study.——Dr. Horace M. Brown, Milwaukee, has returned from Europe.——Dr. E. Y. Arnold, formerly of St. Croix Falls, has located at West Duluth.——Dr. E. C. Jacobs, Durand, has associated with him in his practice Dr. A. D. Smith, formerly of Eau Claire.

Wisconsin College of Physicians and Surgeons held the opening exercises for its ninth session, September 24, Dr. Homer Sylvester delivering the address of the evening. Apparatus to the value of $1000 has been added to the laboratories. New members of the faculty have been added, as follows: Dr. McNaughton, department of surgery; Drs. Joseph Donovan and James Ryan, materia medica and therapeutics; Dr. Bjorkman, Racine, physiology, and John S. Donovan, jurisprudence.

Fumigate the Camps.—The work of fumigating the lumber camps has been begun and the places that proved last winter such excellent breeding ground for smallpox are to be thoroughly disinfected. The occupants of the camps themselves seem to realize their danger and the opposition which was manifested during the attempts on the part of the health authorities last year, is no longer present. Dr. H. J. Connor, who was appointed by the State Board of Health, has charge of the work.

Smallpox.—The alarming report that seventy-one cases of smallpox were discovered October 7, at the government school at Odanah, on the Bad River Reservation, has prompted active steps by the health authorities. The village is quarantined, the three district schools have been closed and the parochial school has been converted into a hospital. The form of the disease seems to be mild, but the sudden and widespread outbreak will make its confinement difficult.——At Stockbridge a case of smallpox was discovered in a tent-covered wagon occupied by a threshing-machine crew.——The health officer of La Crosse investigated the alleged smallpox epidemic at French Island and found the disease in three families. The places infected have been quarantined.——Three cases are reported on South Ridge, south of La Crescent, Minn.——There are now but two cases of the disease in West Superior.

CANADA.

Personal.—Dr. Albright, senior surgeon of the Elder-Dempster line, has been appointed surgeon to the Canadian Pacific Railway steamer, *Empress of India*. Dr. Fitzgerald of Montreal succeeds him.

Victoria Cottage Hospital at Regina.—Last week, while touring the Canadian Northwest with the Royal party, Lady Minto opened the Victoria Cottage Hospital, at Regina, towards the erection of which the Lady Minto Cottage Hospital Fund contributed $1,500.

From Montreal.—Montreal, too, is also threatened with another epidemic of smallpox. Only a few days ago the city was declared free from the disease, but the Provincial Board of Health of Quebec considers that owing to an outbreak at St. Henri, a suburb, and the epidemic at Ottawa, that it is important enough to issue a general call for vaccination. A special hospital is being established to deal with any cases developing.

From Ottawa.—The Capital seems to be face to face with an epidemic of smallpox. Dr. Robillard, the medical health officer, is away on his holidays and the health of the city is in charge of Dr. Law in the interim. The week ending October 6, fifteen new cases developed, and during the past week there were a good many more. The Board of Health has ordered a general vaccination, and Dr. Bryce has been summoned from Toronto to advise on the matter.

Without Tuberculin Test.—The United States Department of Agriculture has issued an order that all Canadian cattle imported into the United States for exhibition purposes during the time the International Live Stock Exposition is being held, at Chicago, may be brought in without being subjected to the tuberculin test, but they must be accompanied by a certificate from the Canadian official veterinarian stating that they are free from contagious and infectious diseases.

Notre Dame Hospital, Montreal.—The annual meeting of this hospital was held last week, and it was decided to build a new hospital in the near future. The medical report stated that during the past year 2200 cases had been treated, an increase of 177 over the previous year. The cost of each case was ninety cents per day, a decrease of eight cents, in comparison with the preceding year. Of the total number of cases treated 1854 left the hospital cured, 155 were not improved and 134 died, making the percentage 6.09. Among the total deaths 69 were in a precarious condition when they reached the hospital. In the outdoor department there were 20,078 consultations, or a decrease of 1740 on the previous year. In this department five cents is charged for consultations for those able to pay. The financial report stated that the expenses were $29,480.54, and the receipts $32,293. Dr. E. P. Lachapelle was re-elected superintendent, and Dr. Benoit, secretary. Next year the annual report will be published in English, as well as in French, owing to the increasing interest taken in the affairs of the hospital by the English-speaking population.

Ontario Board of Health.—The regular quarterly meeting was held in Toronto on October 9 and 10, the chairman, Dr. Vaux, of Hamilton, presiding. Dr. Bryce, the secretary, in his official report, stated that there had been in the province for the first nine months of the year 1064 cases of smallpox, which was the largest outbreak in Ontario in the history of the Board. Only six deaths had occurred, which was less than 1 per cent. It was estimated that over forty cases had occurred since October 1, in places including Ottawa, Oxford County, Manitoulin Island and the District of Algoma. Dr. Bryce believes that the time has arrived in the history of the Dominion of Canada when the government should establish an institute for scientific research, where vaccines and anti-toxins would be prepared. The secretary also presented another report on the question of tuberculosis, and it was recommended that municipalities be advised to stop the people from expectorating in public places, and that physicians be compelled to report all cases of tuberculosis. Further advice was given that tenements, factories, schools and other public buildings be regularly inspected to promote cleanliness, ventilation and other sanitary conditions.

FOREIGN.

Prize for Research on the Invisible Rays.—The Vienna Academy of Science will award the von Baumgartner prize of 2000 kronen at the close of 1903, for the best research work on the invisible rays.

Deaths Abroad.—Adolf Winter, professor of pharmacology at Leipsic, and formerly librarian, died September 18, in his 86th year.——The death is also announced of C. Euler, to whose efforts the Turnwesen, gymnastic athletics, owes much of its success in Germany.——G. Jablonowski, of the Berlin Anatomic Institute, 43 years of age.——H. von Wyss, professor of forensic medicine at Zurich University.——Our Grecian exchanges report the death of Jules Galvanis, professor of surgery at Athens.

Nineteen Physicians in Quarantine.—The steamer *Senegal* left Marseilles for a trip to Palestine, with 174 tourists on board, including 19 physicians and their families. Soon after leaving, a case of bubonic plague was discovered among the crew, and the steamer returned to Marseilles, where the party were quarantined. One other case occurred among the sailors, but the rest of the crew and passengers escaped. Chauffard, Richardière and Bucquoy are among the physicians who have thus been enabled to study at first hand the workings of the quarantine system.

International Congress of Physiology.—This congress convened at Turin, September 17, with about 300 members. Forster, of Cambridge, was elected perpetual honorary president, as a token of gratitude for his efforts in organizing these international congresses of physiology. Bowditch, of Boston, was elected president, and Chauveau, of Paris, second president. The members sent a telegram to Queen Margherita thanking her for the successful initiation of the laboratory of physiology, which has been constructed on top of Monte Rosa. Mosso announced that the Italian government has recently appropriated funds to equip and maintain it. He invited the nations represented at the congress to consider the laboratory an international institution and to send expeditions to it.

LONDON LETTER.

Reform in the Army Medical Corps—Drastic Charges.

At last, under the severe pressure of necessity, the War Office has been driven to grant some very substantial reforms of the Army Medical Corps. The need for such has been repeatedly pointed out in THE JOURNAL, and the fact that the so-called "hospital scandals" of the South African war were the result of the domination, and consequent muddling of army medical matters by the military authorities of the War Office. The Commission on Army Medical Department which sat under the presidency of Mr. Broderick, the Secretary for War, has been already described. Its report has just been published. The Committee recommend that the Army Medical Corps be placed under the supervision of an Advisory Board, to be composed of the following: The Director-General of the Corps, chairman; the Deputy Director-General, vice-chairman; one officer of the Corps, with special knowledge of sanitation; one officer, with special knowledge of tropical diseases; two civilian physicians and two civilian surgeons, appointed by the Crown, on the recommendation of the Secretary of State; one representative of the War Office, appointed by the Secretary of State; one representative of the India Office, appointed by the Secretary of State for India, and the Matron-in-Chief, of Queen Alexandra's Imperial Military Nursing Service—for nursing service only. To be eligible for appointment on the Advisory Board, a civilian physician or surgeon must have held a post on the staff of a leading civil hospital, and be not more than 55 years old on appointment. He shall hold office for three years, with renewal upon extirpation, but terminable upon his attaining the age of 60. He shall receive an honorarium of $1000 per annum.

But the most important reform is in the conditions of admission to promotion in the Corps. The rates of pay are considerably increased. The following are proposed: Lieutenant, $1600 per annum; captain (i. e., after three years' service), $1900; captain after seven years' total service, $2000, and after ten years, $2300; major (i. e., after twelve years'

total service), $2900; major, after three years' service as such, $3150; lieutenant-colonel (i. e., after twenty years' service, $3500; lieutenant-colonel, $4000; colonel, $4800; surgeon-general, $7500; director-general, $10,000. In regard to promotion, a most important innovation is the substitution of promotion by examination for promotion by seniority. On the completion of six years' service as captain, an officer can retire with a gratuity of $5000. Should he elect to continue, between his ninth and twelfth year of service he will be attached to a hospital at one of the military centers for six months, so as to be able to study at a modern hospital; then he presents himself for examination. Having passed the examination and completed twelve years of service, he will be promoted to a majority. Three years later he can retire on a gratuity of $12,500. If he continues he will be granted three months' study leave and then be required to qualify by examination for promotion to the rank of lieutenant-colonel. This examination covers ten subjects, including the medical history of modern campaigns and the army services of other powers. If he fail to pass, he will be compulsorily retired on the gratuity last mentioned, or he may by special permission be permitted to complete twenty years' service, and retire on a pension. The committee is strongly of the opinion that the establishment of a military hospital and medical staff college for the training of officers of the Medical Corps would conduce to the efficiency of the service. Taken as a whole, the report is highly satisfactory, and its adoption must greatly improve the personnel of the Medical Corps and remove most of the crying grievances of its officers.

Sir James Paget's Memoirs.

The Memoirs and Letters of Sir James Paget, edited by his son, Mr. Stephen Paget, have just been published. The work, both from the high importance of the subject and the competence of its editor, is one of the most valuable and instructive contributions on medical biography ever published. Sir James Paget, who died nearly two years ago, was for many years regarded as the leader of the profession in England—a position which he attained by the most arduous and unremitting work, in spite of poverty in his early years. The editor of the Memoirs, Mr. Stephen Paget, is himself a surgeon and has made several valuable contributions to surgical literature. Perhaps the most important are his paper on "Inflammation of the Parotid, After Abdominal or Pelvic Lesions," and his life of John Hunter. He is master of a graceful literary style, in which the effects of heredity can be traced. The book is the story of a life full of work. The number of hours which Sir James Paget worked for many years seems almost incredible—sixteen hours a day. He was never regarded as a great operator, but as a diagnostician he was unrivaled and his opinion in a surgical case was relied upon as the highest that could be obtained. The universal feeling of respect with which he was regarded, both by the profession and society generally, was inspired not only by his professional skill, but also by his character as a man, absolutely above the suspicion of ever being actuated by any but the highest motives. His son says of him: "He was very proud of his profession, and proud of his own hard work for it and in it; he never dreamed of being above it, or of going outside the limits of it; and its service was perfect freedom to him."

Smallpox Outbreak.

There are now 160 cases of smallpox in hospitals in London, and 5 new cases were admitted on the last day of the report. Though the number can not be described as alarming a disquieting fact is that cases occur in all parts of the vast metropolis. The local government board has issued circulars to the borough councils and boards of guardians of the poor instructing them to take energetic measures in connection with the cases—to isolate the patients, vaccinate persons exposed to infection and disinfect the premises. The neglect of vaccination, which is partly the result of the recent act abolishing compulsion in response to the clamor of anti-vaccinators, is to some extent responsible for the outbreak. Thus in the Borough of Hackney it is estimated that in a population of 50,000 children under the age of 10, 20,000 are unvaccinated. Here the authorities are exerting themselves to the utmost to prevent the disease obtaining a hold on the parish. The residents of several of the infected houses are being paid $5 a week on condition that they do not leave the building or send their children to school. The total deaths from smallpox, which had been 7, 7 and 9 in the preceding weeks, fell last week to 3.

A nurse in a Paris hospital fatally burned a child by placing it in almost boiling water. She was condemned to 15 days' imprisonment and 2000 francs damages.

THE VIRCHOW ANNIVERSARY IN NEW YORK CITY.

The medical world did honor to Dr. Rudolph Virchow, last week, on the anniversary of this great man's eightieth birthday, by a dinner which was held in New York, at Sherry's last Saturday, to which over 100 representative medical men sat down.

Dr. C. L. Dana had devised an ingenious and handsome menu. It represented a facsimile of Virchow's *Archiv für Pathologische Anatomie*, with its familiar green cover; within there were two portraits of Virchow. One was taken at the age of 38, and had been given to Dr. Andrew H. Smith, of New York, who in 1858-1859 was a student in Berlin. A later portrait of Virchow, at the age of 78, was also included in the menu. Following this was a list of the more important publications of Virchow on matters medical, anthropological, hygienic and social.

Following the dinner, Dr. William Osler, acting as chairman, spoke of Virchow as a scientist, more particularly as an anthropologist and hygienist. He said that they had gathered, this night, for a notable occasion and on a notable night, for, eighty years ago, there had been born into the world of medical science, a genius. Genius, he said, had been defined as a matter of birth and environment. With reference to this last factor, Virchow had been fortunate, since he had had the privilege of being a student under Johannes Müller. What this had meant to the young man was well expressed in Virchow's address, given at the death of his master. At the time of Müller's entrance into the medical arena, vague and mystical conceptions of disease were taught, but he had introduced into the science of pathology the too long forgotten ideas of the old Greek philosophers and teachers. Observation, study and analysis were the fundamental considerations of these early physicians, and it was to the undying credit of Johannes Müller that the processes of exact observation were brought to bear on the problems of disease.

Speaking of his work in the field of archeology, Dr. Osler said that it was not a mere dilettante, but as an ardent and faithful student; that he was not a mere dabbler in skulls and in relics, but a recognized master; and no congress of archeology was ever complete without his presence.

With Pettenkofer, of Munich, he shared the honor of being the foremost authority of Europe in matters connected with public hygiene, and the Prussian Government, and more particularly the city of Berlin, owed much to his genius as a hygienist. The list of his contributions to preventive medicine, as revealed in his "Gesammelte Abhandlungen," bears testimony to his extraordinary fertility of idea and activity in execution.

Dr. Gould, of Philadelphia, then read a telegram of congratulation to Dr. Virchow from his friends and admirers in America.

Dr. W. H. Welch, of Baltimore, spoke of Virchow as a pathologist. It would take, he said, a genius approaching Virchow himself, in attempting to correctly present this many-sided man. As an anthropologist, he was an acknowledged authority, and Dr. Welch related an anecdote, in which an acknowledged authority in anthropology had asked Dr. Welch if Virchow had any reputation in medicine, as he had always thought of him only as a fellow anthropologist.

Virchow, he said, had been an integral part in the great renaissance that had been going on in science, in whose collateral branches such men as Brucke, Myers, DuBois, Raymond, Helmholtz, Schroeder, and others were such notable lights. He had been fortunate in the choice of his early studies, for in the observations that he made on the chemistry and the morphology of the blood; in his later studies on inflammation, and in his work on cellular tissues, he was working with the fundamental problems of pathology. His work on thrombi and emboli constituted an epoch in the study of disease processes, and his "Cellular Pathology," which appeared in 1858, was a classical work, making a step forward for all time. It is true that its foundations have been attacked, but they have never been superseded. Certain details have been modified, but

the fundamental truths are truths for all time. Morgagni had first brought into prominence the importance of *organs*, Bichat had shown the relations of the *tissues*, but Virchow laid the foundations of pathology in the study of the cell. One of the most important precepts to be learned from Virchow's work is the value of method as opposed to doctrine. Disease, for him, was "life under changed conditions," and it is this attitude towards the investigation of vital problems that has placed pathology so high in the sciences.

Dr. Andrew H. Smith, of New York, spoke of Virchow as a teacher and as a man, and gave a number of pleasant reminiscences of his student days of 1858-1859 in Berlin. One of the things that most strikingly appealed to his mind was the method that Virchow had inaugurated in the dead-room. Traube was then active in his teachings and many of his postmortems were associated with the smell of burnt meat, as he used small red-hot irons. The postmortems were then conducted with the view of ascertaining what the patient died of and the affected organ only was examined with any minuteness. Dr. Smith said that he had been electrified to see Virchow open the body from the chin to the pubes with one sweep of his butcher's knife and he would then make the dead man tell his secrets, so searching was the scrutiny. The new point of view of learning everything possible from the dead body was a revelation.

Dr. Smith also spoke of Virchow's early resolve to write in a simple and straightforward style and his written and spoken words were always expressed with a clean-cut straightforwardness, rarely found in medical literature. As a man, Virchow was very democratic and approachable. He was always pleasant and ready to aid his students and above all was a constant stimulus to accurate observation.

Dr. Jacobi then spoke of Dr. Virchow as a citizen. He dwelt particularly on Virchow's public work, from the time when he first lost governmental favor by his honest and enlightened report on the typhus epidemic in Silesia in his early manhood to his latest parliamentary services. Reform in society as well as in science has been his forte; the city of Berlin, with its model administration, owes largely to him the fact that it is a cleanly, healthy, well-governed city, in spite of constant interference. The empire is indebted to him for the organization of the medical care of its soldiers in its later wars, and in this connection Dr. Jacobi quoted Virchow's appreciative acknowledgment of our own country's contributions to the medical

science of war. For nearly fifty years Virchow held a seat in the town council of Berlin, for dozens of years in the representative council of Prussia and the imperial parliament; he has always stood firm for principle and right. While engaged in scientific research, which in universality and importance has been rarely even approached by others, he has never forgotten that his services also belonged to his countrymen; his example should teach young medical men that the pursuit of science and good citizenship are not mutually exclusive. His life is a great lesson that we should learn, no matter how high our scientific position or vast our learning we belong to our fellow-men in duties of reciprocity and good citizenship. But we may never have an opportunity again to thus honor one who has been equally great, alike in science and citizenship. One thing we may say of him, with Goethe: "He has satisfied the best of his era, he has lived for all time."

Miscellany.

Malaria Simulating Hydrophobia.—At the recent Pan-Hellenic Medical Congress, held at Athens, Nicolettis reported a case of apparent acute hydrophobia in a child, who exhibited all the ordinary symptoms, including biting the persons around. He was not known to have been bitten by any animal, but had a history of preceding malaria. Nicolettis diagnosed the case as pernicious malaria, instead of hydrophobia, and injected quinin subcutaneously, with complete cure of all the symptoms in three days. In the treatment of malaria, one member of the congress lauded a mixture of quinin and methylene blue as very effective in his experience, while another ascribed great therapeutic efficacy to a combination of belladonna, quinin and iodoform.

An Accouchement in Dahomey.—Dr. Blin describes, in the French *Annales d'Hyg., etc. Coloniales*, 1901, 1, the peculiar features of an accouchement of a Dahomey high caste woman at which he was allowed to be a spectator. During the last stage, two women massaged the thighs and flanks of the patient continuously, scolding her at any expression of pain. A stopper of herbs rolled into a wad, was inserted in the anus—"a hygienic measure highly to be recommended," he remarks, "for the sake of both the infant, the mother and the accoucheur." A round piece of wood like a broom handle anointed with palm oil and aromatic substances, was introduced into the patient's mouth and pushed down into her throat. The purpose of this was to retain the air in the thorax as one instinctively closes the glottis in straining during defecation. Boiling water was used copiously in cleansing.

Simple Test for Fat in the Blood.—Zaudy, of Ebstein's Clinic, describes in the *Deutsche Archiv f. Klin. Med.* for June, a very simple method of detecting lipemia. A small drop of blood is drawn on the center of a cover glass which is inverted and the hanging drop examined. The serum that collects in a drop of normal blood is perfectly clear, but in case of lipemia it is turbid, of a bluish or grayish white or even milky hue, if examined within the first few hours. The microscope shows the droplets of fat, but the macroscopic aspect of the serum is sufficient to disclose the lipemia. The only source of error is that an excess of fibrin may simulate the fat, but the microscope reveals the difference at a glance. The blood from a large number of patients was examined, all suffering from affections usually considered as associated with lipemia, but no fat was found in the blood except in the diabetic patients. It is possible to trace the course of a fibrinous pneumonia with this hanging-drop method. The blood from lying-in patients always showed a ring of fibrin around the clot.

Treatment of Obesity.—E. Stadelmann describes, in the *Berliner Klin. Wochenschrift* for June 24, a case of obesity in which the weight was reduced 120 pounds in a year. This was accomplished by restricting the diet to the amount of calories which experience showed was just below the amount on which the patient increased in weight. She gained on 1200 and lost on 1000, consequently the diet was restricted to an average of 125 gm. of albumin, representing 514 calories; 32 gm. fat, or 300 calories, and 49 gm. carbohydrates, or 200 calories, a total of 1014 calories a day. No restriction was imposed on the amount of water and green vegetables were allowed in abundance. The ration for one day, for example, was 400 gm. coffee, without milk or sugar, 80 gm. graham bread, 200 gm. roast pork, 80 gm. boiled ham, 500 gm. tea, without milk or sugar, 80 gm. Schweizerkäse and 400 gm. cucumber salad. Stadelmann believes that thyroid treatment of obesity is dangerous and superfluous, as equally good if not superior results can be attained by underfeeding, adapting the number of calories to the individual case, and varying the proportions of fats and carbohydrates from time to time to make the diet more acceptable to the patient. Even at the best, the treatment of obesity is a severe strain on the patience and will-power, and the physician's strict and constant oversight is needed.

Arrhythmia in Fatty Degeneration.—Kisch states that the probable reason why intense arrhythmia is noted in one case of fatty degeneration of the heart, while the heart action is still regular in other cases in which the degeneration of the myocardium is equally pronounced, is that in the former case, the nervous apparatus of the heart is affected, directly or indirectly, by the morbid process. This extreme, persisting arrhythmia is always an ominous sign, he says, indicating heart failure liable to occur at any moment in consequence, possibly, of some very slight exerexertion or increased resistance in the vessels. It may be the first indication of latent fatty degeneration of the heart in persons inclined to fat, and should rouse the physician to energetic measures directed to the relief of the task imposed on the heart, and to aid the recuperation of the degenerated myocardium. Kisch is physician at Marienbad and he states that he has been able to prolong life and relieve the patients in many apparently doomed cases. He illustrates typical tracings, in such cases, in the *Wien. Med. Wosh.*, of May 25. They are distinguished by the alternation of a number of regular pulse waves with a few small, rudimentary waves, and, possibly, occasional pauses. Or the regular waves may occur irregularly between abnormally large, protracted waves and the rudimentary. The pulse may be retarded or accelerated.

Correspondence.

American Humane Association.

Toledo, Ohio, Oct. 3, 1901.

To the Editor:—My attention has just been called to your long editorial in The Journal of September 14, wherein, among other things, you question the accuracy of my statements. Your sense of fairness, I doubt not, will permit me to make, through your columns, a brief reply.

Referring to the pamphlet "Concerning Human Vivisection" issued by The American Humane Association, you say:

"If the Association had really desired to put the matter fairly before the public, why did it not include Dr. Keen's last letter? If it had done this, the anonymous reviewer would have had an opportunity to point out the 'serious misquotations' spoken of by Mr. Brown in his recent communication, if they existed, a possibility of which we have our doubts. A writer who . . . leaves an important term like '*carcinoma dissemine*' in the original rather than put it into intelligible English is not one that inspires faith in his criticisms or the accuracy of his assertions."

1. The answer to your first question is easy enough. The pamphlet "Concerning Human Vivisection" was published at least three weeks before Dr. Keen's "last letter" appeared in your columns; its introduction is distinctly dated July 1, 1901. How could Dr. Keen's letter of August 10 appear in a pamphlet printed and in circulation in the preceding month?

2. The important term "carcinoma dissemine" does not appear in the *Review*, except as embodied in a long letter from the special correspondent of *The British Medical Journal*. Doubtless he will appreciate your criticism; but I fail to see why his language should have been changed, or why his fail-

ure to translate a perfectly intelligible phrase should inspire doubt as to the accuracy of his assertions.

3. You doubt the possibility of my pointing out in Dr. Keen's letter any serious misquotations. Will THE JOURNAL grant me the space to prove it? If so, the proof of his garbled quotations shall be furnished. But in his interest, I protest against being called upon to furnish them in your columns.

4. Speaking of Animal Vivisection, you say that "the courageous application of the facts thus gained on human subjects falls fairly within what Mr. Brown . . . would call "human vivisection." Not at all! Evidently, you are entirely ignorant of what The American Humane Association means by the term. It was thus defined on the first page of the original pamphlet: "The phrase 'Human Vivisection' must not be taken as having any reference to the experimental use by physicians of new methods or new remedies, with a view to the benefit of the patient. To such tests, in the vast majority of instances, there can be no objection. But 'human vivisection' is something entirely different. It has been defined as 'the practice of subjecting human beings, men, women, and children, who are patients in hospitals or asylums, to experiments involving pain, mutilation, disease or death, for no object connected with their individual benefit, but entirely for scientific purposes."

5. You state regarding unjustifiable experiments on human subjects, that there have occurred "a few rare instances of the kind, that were promptly condemned by the profession generally, long before The Humane Association ever paid any attention to the subject." I am very glad to know this upon your authority. If now, you will kindly quote from your own periodical, a single case in which an experimenter of this kind has been, by name, condemned or censured in your editorial columns since THE JOURNAL came into existence, I shall be glad to give your words that wide publicity which they deserve, as illustrating the attitude of the medical profession towards this atrocious practice. Yours very truly,

JAMES M. BROWN,
President American Humane Association.

Ans.—THE JOURNAL received the pamphlet in question about five weeks after the publication of Dr. Keen's last letter. We have not been accustomed to consider the date on the introduction as the date of printing of a work, and, supposing we had been promptly furnished with a copy, it was not unjustifiably assumed that its producers had had time to see THE JOURNAL of August 10 and include the latest statement of Dr. Keen. Anyone can put any date he pleases on the preface to a pamphlet; it is no evidence of the time of a book's appearance. We repeat that it would have been better for their pretense of fairness if The Humane Association had held back their pamphlet, if necessary, a few days to present also this last letter.

As regards the retaining the term "carcinoma dissemine" instead of putting it into English, it might do in a medical journal, though it looks pedantic, but, whether in a quotation or not, it ought not to be left without explanation in a pamphlet addressed to the laity. It disguises, so to speak, the facts in the case, that the patient suffered from generalized cancerous infection. While not approving of the procedure we can not say that auto-inoculation in such a case had any more effect on the feelings of the patient or the prognosis of the case than there would be in general leprosy, or from the addition of another pustule in a case of discrete variola. That, however, is evidently not the impression intended to be conveyed by The Humane Association's writer and he refrains from any explanation of the term, though, if he is at all familiar with medical terms, he must have been aware of the very possible trifling nature of the operation. The term as used by him can not be said to be "perfectly intelligible" to the average reader.

Dr. Keen, who is now in Europe, is perfectly able to take care of himself and one may reasonably doubt Mr. Brown's word that he has made any serious misquotations or that Mr. Brown is likely to want to spare him any exposure of them if he can do it. We may also be reasonably excused from giving any space to those who garble extracts and excuse deliberate misrepresentations under the plea of "free translation." As regards our alleged misapprehension and ignorance of what is meant by human vivisection, we shall hold our position. In fact, according to the definition given, hardly one of the cases of alleged human vivisection cited could be said to have been done entirely for scientific purposes; there was a therepeutic end in view in nearly every one, if not all. This does not, of course, justify the infliction of needless suffering, or criminal recklessness.

THE JOURNAL has editorially condemned human experimentation in the past as it does at the present, but it can not approve of exaggeration and misrepresentations or the attempted inference that it is not condemned by the medical profession. That this is not the case is shown by the fact that The Humane Association's anonymous writer has to quote such condemnation, though he apparently tried to avoid it, as in the case noted by Dr. Keen. The impression conveyed to disinterested laymen by his article is shown by an editorial in the *New York Evening Post* which sees in it "not an answer to Dr. Keen's specifications, but an attempt to hold him responsible for things he has not said or done. It puts him in the attitude of exonerating physicians who have been charged with experiments producing unnecessary pain upon poor and helpless patients in hospitals. No impartial reader will derive such an impression from anything he has said." We do not see the utility of further lending our columns to those whose main object appears to be the libeling of the medical profession, through garbled quotations and direct misrepresentation by an anonymous writer.

The Banquet to Dr. N. S. Davis.

HARTFORD, CONN., Oct. 12, 1901.

To the Editor:—The testimonial banquet to Dr. Davis, so warm and appreciative in its recognition of his great service to medicine, and to medical men, failed to note the real monument which he has been building for the future.

The recent great advances of science have pointed out the wisdom and prescience of the persistent and insistent efforts of Dr. Davis to make known the dangers from the use of alcohol. For nearly half a century from laboratory and clinical experience he has called attention to the errors and delusions which have invested the alcoholic problem.

Dr. Rush, the great physician of the last century, is more often quoted to-day and is more vividly remembered for his statements of the nature of alcohol and the diseases which follow than for any other work he did.

Condelac, a noted French philosopher of the eighteenth century, is unknown to-day; his name is rarely mentioned except as having urged that inebriety was a disease and curable.

History has many similar examples of prominent men in their day whose memory was only known to the future by what they said regarding some unpopular subject, which later was recognized as a great truth. It is this work of the recognition and defense of great facts which are denied at the time, that make such men the pioneers. These men open up new territory and mark out paths for larger truths in the future. There can be no doubt that the great impending alcoholic problems of this new century will refer back to the efforts of a few men of which Dr. Davis is the great leader, and who, like scouts, far in advance of the army of scientific progress, indicate the direction and line of march.

A host of friends all over the country extend to Dr. Davis their heartiest greetings and confident assurance that his name and reputation is not limited to this day and generation.

T. D. CROTHERS, M.D.

Laxity in Pension Examiners.

BLOOMSBURG, PA., Oct. 10, 1901.

To the Editor:—In an article in THE JOURNAL of October 5 on "Laxity in Pension Examiners," the claim is made of "certain abuses" of "serious carelessness," and that the public has "a conviction of a vast amount of fraud in the pension

business," and that the publication of such facts as these confirm it. Let us examine the alleged facts. If they are true, then the above allegations stand. If they are false, then they fall. The "facts" consist of an experience with one board of pension examiners, who examined twenty applicants at once, from one section and found them all suffering from heart disease. These applicants were then examined before disinterested physicians who found no heart disease in any of the cases. Is this probable? Is it possible, that twenty soldiers aged from 55 to 75 years, who have suffered all the privations of army life, and subsequently the most of them the hardships of severe manual labor in attempting to maintain their loved ones, that not *one* had heart disease? I doubt if it is possible to take twenty men with *no* army experience between the ages of 55 and 75 years and not find one with heart trouble.

The sentiments of your article are so similar to others recently published, as to excite the suspicion of a common inspiration. Many of your subscribers are pension examiners. Were you to obtain their experience as to the prevalence of heart disease among pensioners it would go far towards establishing the question as to who is right in the controversy between the Commissioner of Pensions and the Grand Army.

J. J. Brown, M.D.

A Medical Weekly Criticised.

Pawtucket, R. I., Oct. 2, 1901.

To the Editor:—I am glad you noticed the editorial of a certain medical journal reflecting upon the physicians who attended our late lamented President.

It is a deplorable state of affairs when a journal that should be cautious and dignified, rushes into print editorially with a hysterical attack upon the good name of our profession backed by nothing but hearsay. The proceeding was a disgrace to journalism and if I were a subscriber of this weekly I should consider it a duty to myself and my profession to refuse to accept it in the future.

According to certain "yellow newspapers" this medical publication is the "mouthpiece of the profession." Where those poor deluded scribes got the information I can not imagine, but sufficient to say they never heard of the American Medical Association or The Journal, or of a number of other favorably known medical journals, for if they had, reckless as these men are, I believe they would hesitate before writing such a glaring misstatement.

I believe that a medical journal that assumes such an attitude toward the profession is unworthy of support. The editorial not only reflected upon the gentlemen immediately concerned in this case, but upon the whole profession, and while this editorial was inconsistent and absurd to the professional mind, it certainly made the profession ridiculous to the lay mind.

Yours very truly,

Francis M. Harrington.

The Septic Tank.

Chicago, Oct. 9, 1901.

To the Editor:—In The Journal of September 28, the City Clerk of Vancouver, B. C., states in a very positive way that the City of Vancouver was the first to introduce the Septic Tank System into the Dominion. This is an error. The first septic tank system to be introduced in the Dominion of Canada was installed at the Mount Allison University, Sackville, N. B., and was put into practical operation in October, 1900.

I should perhaps explain that, as general agent for the septic tank syndicate at Exeter, England, I secured the introduction of this system, both at Vancouver and Sackville, and on March 12, 1901, I received a letter from Dr. Allison, President of the University, reporting the very satisfactory working of our system. In the interest of your readers, perhaps you would like to get a later report from the Doctor, which I think he would be very glad to give you, but in justice to Dr. Allison I think Dr. McGuigan's statement should be corrected.

Yours very truly, H. D. Wyllie,
General Manager Cameron Septic Tank Co.

A Warning.

Philadelphia, Oct. 12, 1901.

To the Editor:—I desire to warn the profession against the operations of the Merchants' and Physicians' Adjusting Agency, of 346 Broadway, N. Y. Their scheme is to agree by written contract to collect bills for two years for $25, half of the first $50 collected. The doctor must bind himself to send every 20 days for five times, twice as many stamps as the number of debtors to whom letters will be sent. The point here is that if the physician should forget to send the stamps within the time mentioned, such is the wording of the contract, that he must forfeit $25 and risk hearing nothing more about his accounts. Should he refuse to pay, they threaten and demand a promissory note as the only concession. The nefarious trick is quite obvious.

H. S. Anders, M.D.

Gangrene Complicating Pregnancies.

Austin, Texas, Oct. 11, 1901.

To the Editor:—For the benefit of the statistic-pathologist, allow me to report that several years ago, a primipara, of this city, lost one of her feet, and part of the ankle, as a result of gangrene, complicating parturition. The patient fully recovered, and has since borne five healthy children, all of whom are now strong and well. Personal observations lead us to believe that such complications are not so rare, or so fatal, as many writers would have us to believe.

Q. C. Smith, M.D.

New Instrument.

A SIMPLE MECHANICAL DEVICE TO PREVENT THE MISCOUNT OF SPONGES.

Miss Zell Converse, Graduate Nurse.
Columbus, Ohio.

The unfortunate accident in a Columbus hospital a few years ago, and the universal expression of trained nurses as to the responsibility assumed by them in accounting for the sponges used, impresses upon the mind of the writer not only the convenience and value, but the almost absolute necessity of some arrangement which would render a miscount impossible.

The following described simple device then came to mind, and was suggested to one of our leading surgeons, who has since used it both in hospital and private practice; in a published report he speaks of it as devoid of complications and in every way eminently satisfactory. Any ordinary table may be used, but one at least 36 inches in length and a little wider than is necessary to hold two sponge basins, will be found most convenient. To this is attached at the back of the top an upwardly inclined surface about 36x36 inches with three hooks, one at each upper corner and one in the center from which the unfolded package of sponges is suspended.

The sponges are made of surgeon's gauze in two sizes; one size 9x9 inches, and the other, 12x12 inches. Each package is made up of a piece of muslin or cotton flannel, measuring 30x36 inches and divided by colored threads into squares, three of which are 12x12 inches, and the eight remaining, 9x9 inches. Colored thread run in by machine easily marks the squares. Three loops of tape, one at each upper corner and one in the center of the muslin, are for suspending from the hooks on the table. To each square a sponge is lightly caught by a very fine thread at each upper corner—indicated by dots in the diagram. The muslin is then folded upon itself, rolled up and sterilized. At the beginning of the operation the sterilized package is unrolled and suspended by the loops of tape from the hooks upon the inclined surface at the back of the table, where the nurse and everyone present can, at a glance, see that each square is occupied by a sponge. If the unbleached muslin is used the difference in color in the muslin and the sponge would make the absence of a sponge the more quickly detected. The sponges being so lightly attached are then easily removed to the basins. When the time comes for counting, the nurse

quickly wrings out and places each sponge in its space on the muslin. This takes no longer than to count them over and if each space is occupied, as in the beginning, the surgeon, nurse, and others present see that there can be no mistake and there need be no further anxiety.

The inclination of the surface and the sponges now being wet makes them adhere without other attachment. No loose sponges should be allowed in the operating room, and ordinarily, not more than one package will be needed if the sponges are washed and returned as needed to the surgeon by the nurse. A number of these packages, however, should be on hand, and for those cases in which it is not best to return the sponges, as many can be used as necessary by simply

Table with sponges and basins ready to begin operation.

hanging a second and third package over the first. In such cases, it is best when counting, to fill the spaces on the last or top piece of muslin, roll them up and remove them from the table, then fill the next and so on. In regard to asepsis there need be no fear of using a sponge after accounting for it, as placing them on the already sterilized muslin keeps them still surgically clean.

441 East Town Street.

Association News.

New Members.

New members for the month of September, 1901:

ARKANSAS.
Kittrell, T. F., Texarkana.
Connell, W. H., Hot Springs.

CONNECTICUT.
McMaster, G. T., New Haven.

DISTRICT OF COLUMBIA.
Bishop, F. B., Washington.

GEORGIA.
Goodrich, W. H., Augusta.

ILLINOIS.
Schaller, G. J., Chicago.
Shaff, J. N., Alton.
Kercher, J., Chicago.
Bartlett, E. P., Springfield.
Stuttle, A. L., Williamsville.

IOWA.
Dwelle, E. H., Northwood.
Patrick, F. DeW., Burlington.
Miller, W. J., Wilton Junction.
Horton, C. D., Fort Atkinson.
Pringle, J. A., Bagley.

INDIANA.
Hupe, Chas., Lafayette.
Kennedy, Sam'l, Shelbyville.
Tucker, F. A., Noblesville.

KANSAS.
Milligan, J. A., Garnett.
Whitfield, R. J., Fort Scott.

KENTUCKY.
Dowden, A. P., Eminence.
O'Bannon, J. B., Mt. Carmel.

MASSACHUSETTS.
Whitaker, C. W., Worcester.

MARYLAND.
Lamar, A. A., Middletown.
Johnson, J. A., Easton.

NEW JERSEY.
Mooney, J. J., Jersey City.
Kipp, C. J., Newark.
Hall, W. J., Trenton.

NEW YORK.
Oppenheimer, N., New York City.
Edmister, F., Brooklyn.
Steinke, H. C. O., Brooklyn.
Wahlig, H. G., Sea Cliff, L. I.
Shannon, Wm., New York City.
Jeffries, F. M., New York City.
Welzmiller, L. R., New York City.

PENNSYLVANIA.
Roe, W. J., Philadelphia.
McCulloch, D. C., Allegheny.
Lytle, F. P., Birdsboro.

RHODE ISLAND.
Williams, Pearl, Providence.

TEXAS.
Carroll, R. S., Calvert.
Ward, W. Y., Duplex.
Peters, O. K., Galveston.
Comer, C. C., Carthage.

TENNESSEE.
Bryan, D. H., Monteagle.

WASHINGTON.
Mohrmann, Emil, Roslyn.

WISCONSIN.
Moody, Lewis, West Superior.
Treat, C. R., Sharon.
Wadey, B. J., Belleville.

Married.

JACOB F. BRENCKLE, M.D., Kulm, N. Dak., to Miss A. Boll, at Milwaukee, Wis.

JOHN M. CONLEY, M.D., to Miss Beatrice M. Roche, both of Oshkosh, Wis., October 1.

DANIEL S. HEYN, M.D., to Miss Stella Obendorfer, both of Cincinnati, Ohio, October 7.

WILLIAM D. SUMPTER, M.D., to Miss Tommie Wrenne, both of Nashville, Tenn., October 10.

JAMES EDWARD POORE, M.D., to Miss Lady Pearl Payseur, both of Lancaster, S. C., October 10.

CLAUDIUS W. WEST, M.D., White Rock, Nev., to Miss Ethel M. Egan, Galesburg, Ill., October 7.

JOSEPH W. ANDERSON, M.D., Pittsburg, Pa., to ELIZABETH S. JARRETT, M.D., Norristown, Pa., October 3.

CHARLES H. CLARK, M.D., Washington, D.C., to Miss Cora Esther Taggart, Massillon, Ohio, October 17.

GUSTAVE A. PETERSDORF, M.D., Indianapolis, Ind., to Miss Golda F. Hunter, Memphis, Tenn., October 3.

LOUIS ALBERT ALDRIDGE, M.D., to Miss Amelia Catherine Engel at New Windsor, Carroll Co., Md., September 26.

Deaths and Obituaries.

Richard S. Griswold, M.D., Bellevue Hospital Medical College, New York, major and surgeon, U. S. Volunteers, assigned to the Ninth U. S. infantry, was killed at Samar, Philippine Islands, while on duty with a company of that regiment, aged 31. Dr. Griswold, after his graduation served as assistant to the late Dr. Melancthon Storrs, Hartford. He served as assistant surgeon of the First Connecticut Infantry, U. S. V., during the Spanish-American war, and soon after its close, he passed the examination and was appointed assistant surgeon of Volunteers with the rank of first lieutenant, being assigned to the Twenty-sixth Infantry, U. S. V. While on sick leave he went from Manila to China and was present at the capture of Tien Tsin with the Ninth U. S. Infantry, and was commended in dispatches. In June, 1891, he was appointed major and surgeon of Volunteers, returned to Manila and served with the Ninth U. S. Infantry until his death. He was a member of the Hartford Medical Society.

Frederic C. Winslow, M.D., Northwestern University Medical School, 1874, died suddenly in Chicago, October 10. After his graduation he practiced in Jacksonville, Ill., and was for eighteen years assistant superintendent of the Central Hospital for the Insane at that place. After leaving that position he conducted a private sanatorium until appointed by Governor Tanner superintendent of the State Hospital. Governor Yates recently appointed him superintendent of the Hospital for the Incurable Insane, Bartonville, near Peoria. He was a member of the American Medical Association.

John R. Everhart, M.D., University of Pennsylvania, Philadelphia, 1853, died at his residence in West Chester, Pa., October 8, aged 74. After graduation he studied in Paris, and at the outbreak of the Civil war became surgeon of the Ninety-seventh Pennsylvania Infantry. To his vigorous treatment and extreme care in the enforcement of sanitary regulations was due the control and final conquest of yellow fever among the troops stationed, in 1862, at Hilton Head, S. C. After the close of the war he traveled extensively and wrote several books on travels.

Rezin P. Johnson, M.D., an old resident and practitioner of Canton, Ohio, died in Chicago, where he had resided since his retirement from practice in 1890, October 9, from typhoid fever, aged 62. He was graduated in 1861, and at once entered the United States service, serving throughout the war as assistant surgeon of the One Hundred and Fourth Ohio Volunteer Infantry.

Frank H. Cilley, M.D., University of Vermont, Burlington, 1874, who practiced in Barnet, Vt., for seven years and in Jericho for thirteen years, died, October 3, at the Mary Fletcher Hospital, Burlington, after an illness dating back to an injury received in a railway accident eight years previously, aged 54.

Alexander G. McRae, M.D., Bellevue Hospital Medical College, New York, 1891, was found dead in the basement of his home in Calumet, Mich., October 9. His death was caused by an electric shock. He was 36 years of age, and was resident physician for the Osceola Mining Company.

John S. Bloomington, M.D., Rush Medical College, Chicago, 1870, who practiced medicine for a time and then became interested in life insurance, and founded and edited the *Investigator* in 1874, died at his home in the Hotel Del Prado, Chicago, October 3, from pneumonia, aged 58.

O. Cyrus Kendrick, M.D., Jefferson Medical College, Philadelphia, 1848, formerly in charge of the State Hospital for the Insane, Newburgh, N. Y., and for several years a practitioner in East Cleveland, Ohio, died at his residence in East Cleveland, October 8, aged 79.

Ernest H. Hoffmann, M.D., Washington University, St. Louis, 1861, a pioneer practitioner of Omaha, who served throughout the Civil war as surgeon at Jefferson Barracks, Mo., died from angina pectoris at his home in Omaha, October 8, aged 65.

Ruffin B. Ellis, M.D., University of Pennsylvania, Philadelphia, 1866, one of the oldest and most esteemed practitioners of Raleigh, N. C., died at his home in that place from the effects of a paralytic stroke, October 2, aged 68.

Thomas J. Babb, M.D., Medical College of the State of South Carolina, Charleston, 1848, died at his home, Cherry Creek, Miss., October 8. He had practiced medicine in Pontotuc County for more than half a century.

Henry K. Hershiser, M.D., Columbus (Ohio) Medical College, 1881, one of the oldest practitioners in Seneca County, Ohio, died at his home in Tiffin, October 8, from paralysis, after an illness of two weeks, aged 71.

M. Garst, M.D., Jefferson Medical College, Philadelphia, 1837, formerly a practitioner in Dayton, O., and Champaign, Ill., died at his home in Coon Rapids, Iowa, October 5, after a short illness, aged 86.

Joseph E. Barrett, M.D., University of Michigan, 1861, a prominent physician of Wooster, Ohio, and surgeon of the Twenty-third Ohio Infantry in the Civil war, died at his home, October 3, aged 68.

George C. Mathews, M.R.C.S., Ireland, and M.R.C.P., Edinburgh, Scotland, 1871, a prominent physician of Jacksonville, Fla., died at his home in that city, October 1, after an illness of five days, aged 52.

Richard H. Burke, M.D., Rush Medical College, Chicago, 1883, formerly a resident of Watertown, Wis., but of late years a practitioner of San Jose, Cal., died at Los Angeles, Cal., October 4, aged 45.

E. H. Edwards, M.D., Medical College of the State of South Carolina, Charleston, 1856, died at his home in Due West, S. C., October 1, after an illness of two months, from blood poisoning.

Charles W. Petty, M.D., University of Vermont, Burlington, 1871, of Keeler's Bay, Vt., died suddenly from heart disease while making a professional call at Grand Isle, October 5, aged 53.

Everett B. McKinley, M.D., Starling Medical College, Columbus, Ohio, 1883, died from the effects of carbolic acid, taken in error, October 7, at his home in Vaughnsville, Ohio, aged 55.

John F. Gudgel, M.D., Kentucky School of Medicine, Louisville, 1879, died at his home in Hazleton, Ind., where he had lived for 27 years, October 5, after a long illness, aged 51.

Alfred R. Allen, M.D., University of Vermont, Burlington, 1882, was found unconscious near his home in Parishville, N. Y., October 7, and died without regaining consciousness.

Henry Simmons White, M.D., College of Physicians and Surgeons, N. Y., 1866, once an assistant surgeon, U. S. A., died at his home in Red Bank, N. J., September 29, aged 56.

Torrey T. Prestigar, M.D., Keokuk (Iowa) Medical College, 1894, St. Louis College of Physicians and Surgeons, 1895, died at his home in Sioux City, Iowa, October 5.

Alfred C. Lemberger, M.D., Louisville Medical College, 1893, died suddenly in his office in Louisville, on the morning of October 5, from heart disease, aged 34.

William Ullrich, M.D., a retired practitioner, who had been in feeble health for several years, died at his home in Waukesha, Wis., September 26, aged 83.

George W. Christian, M.D., University of Alabama, Mobile, 1873, died in his office in Austin, Texas, October 6, from the effects of chloroform, self-administered.

William A. Hadley, M.D., Meharry Medical College, Nashville, Tenn., 1880, a colored practitioner and teacher, of Nashville, died from apoplexy, October 7.

Alfred T. Cherry, M.D., Bellevue Hospital Medical College, New York City, 1890, of Huntington, W. Va., died suddenly at Oakland, Ky., October 6.

Herbert H. Flagg, M.D., Jefferson Medical College, Philadelphia, 1881, died at his home in Springfield, Mass., from diabetes, October 1, aged 51.

Thomas R. Walker, M.D., College of Physicians and Surgeons, New York, 1853, died at his home in Louisville, Ky., October 1, aged 73.

Hule G. Magee, M.D., Tulane University, New Orleans, La., 1883, was shot and instantly killed in a dispute at Magee, La., September 30.

Herbert J. Hale, M.D., Detroit Medical College, 1875, died at his home in Grass Lake, Mich., from consumption, October 1.

Societies.

COMING MEETINGS.

New York State Medical Association, New York City, Oct. 21-24, 1901.
Medical Society of Virginia, Lynchburg, Nov. 5-7, 1901.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 13, 1901.
Southern Surgical and Gynecological Association, Richmond, Va., Nov. 19, 1901.
Western Surgical and Gynecological Association, Chicago, Dec 18-19, 1901.

Jacksonville (Ill.) Medical Club.—This organization held its annual meeting, October 5, and elected Dr. Edward Bowe, president; Dr. William K. McLaughlin, vice-president; Dr. David W. Reid, secretary, and Dr. Henry C. Campbell, treasurer.

Lake County (Ohio) Medical Society.—The physicians of Painesville and surrounding towns met at the former place, September 27, and organized a county society, with Dr. David J. Merriman, Painesville, president, and Dr. H. M. Osborne, secretary.

Minnesota Academy of Medicine.—The fifteenth annual meeting of the Academy was held in Minneapolis, October 2. Dr. John T. Rogers, St. Paul, was elected president; Dr. John W. Little, Minneapolis, vice-president, and Dr. Richard O. Beard, Minneapolis, secretary and treasurer.

Perth Amboy (N. J.) Medical Society.—The physicians of Perth Amboy met September 28 and organized a medical society, with the following officers: Dr. John G. Wilson,

president; Dr. H. Martyn Brace, vice-president, Dr. Frank C. Henry, secretary, and Dr. William E. Ramsey, treasurer.

Montgomery County (Ill.) Medical Society.—The annual meeting of this Society was held in Hillsboro, October 1. Dr. William H. Cook, Coffeen, was elected president; Dr. Jeremiah C. Wilson, Donnellson, vice-president, and Dr. Joseph M. Trigg, Farmersville, was re-elected secretary and treasurer.

Walla Walla Valley (Washington) Medical Society.—At the meeting of this Society at Walla Walla, September 17, a committee was appointed to memorialize the City Council toward passing an anti-expectoration ordinance. Dr. Yancey C. Blalock was elected secretary of the Society, vice Dr. Smith S. Johnson, resigned.

Harrison County (Texas) Medical Society.—The medical men of the county met at Marshall, September 25, and organized this Society with the following officers: Dr. Samuel F. Vaughan, Jonesville, president; Dr. James H. Taylor, Marshall, vice-president; Dr. Holman Taylor, Marshall, secretary, and Dr. Charles E. Heartsill, Marshall, treasurer.

Fulton County (Ill.) Medical Society.—At the fourth annual meeting of this Society, held in Canton, October 2, the following officers were elected: Dr. Perry H. Stoops, Ipava, president; Drs. William R. Roberts, Norris, and William S. Strode, Lewistown, vice-presidents; Dr. David S. Ray, Jr., Cuba, secretary, and Dr. Frank M. Harrison, Bryant, treasurer.

International Congress of Family Assistance.—Casimir-Perier and T. Roussel have organized an international conference to discuss the details of placing convalescents, mild insane subjects, etc., in families, boarding them in healthy communities, instead of housing them in institutions. There are to be four sections in the congress which convenes at Paris, October 27.

San Angelo District (Texas) Medical Society.—Through the efforts of Dr. Robert L. Greene, San Angelo, this Society was organized, September 28, with the following officers: Dr. Samuel L. S. Smith, San Angelo, president; Drs. Boyd Cornick, Knickerbocker, and Fred F. Tucker, San Angelo, vice-presidents; Dr. Robert L. Greene, San Angelo, secretary, and Dr. Bascom Lynn, treasurer.

French-American New England Medical Association.—In connection with the congress of French-Americans at Springfield, Mass., a medical association was organized with about 200 members on its initial roll, and the following officers were elected: Dr. J. Hector Palardy, Fitchburg, president; Dr. George T. Lamarche, Springfield, secretary and treasurer, and Dr. Henry E. Chaput, Holyoke, corresponding secretary.

Southwestern Tri-State Medical Society.—This Society, composed of members from Texas, Oklahoma and Indian Territory, met at Dallas, Texas, October 1 and 2, for its second annual meeting. The following officers were elected: Dr. John S. Turner, Terrell, Texas, president; Drs. George W. West, Eufaula, I. T., Lawrence T. Smith, Lexington, Okla., and William R. Thompson, Fort Worth, Texas, vice-presidents, and Dr. John O. McReynolds, Jr., Dallas, Texas, secretary and treasurer.

Jersey County (Ill.) Medical Society.—This Society, after a disbandment of several years, was reorganized September 26, at Jerseyville, with the following officers: Dr. John S. Williams, Jerseyville, president; Dr. Jasper Tidball, Grafton, vice-president, and Dr. Augustus K. Van Horne, Jerseyville, secretary and treasurer. The Society was organized in 1856, with Dr. E. A. d'Arcy as president. Dr. A. K. Van Horne, the present secretary, is the only surviving physician who was present at the organization in 1856.

Greene County (Ohio) Medical Society.—The regular meeting of this Society was held at Xenia, Ohio, October 3. Pursuant to the circular letter recently sent out by the American Medical Association, the Society, by unanimous vote, endorsed the laudable efforts being made to cement the medical profession into a united whole. Believing that a National Board of Health, whose head is a cabinet officer, should be instituted, resolutions were adopted lending its encouragement and influence toward accomplishing that end.

Thurber Medical Association.—The forty-eighth annual meeting of this Association was held at Milford, Mass., October 3. The president, secretary, and Dr. William L. Johnson, Uxbridge, were chosen as a committee to represent the Association in connection with the proposed Milford hospital. The following officers were re-elected: Dr. Nathaniel C. B. Haviland, Holliston, president; Dr. Ralph C. Fish, Hopedale, vice-president; Dr. John M. French, Milford, secretary; Dr. Le Grand Blake, Milford, treasurer, and Dr. Christopher D. Albro, Milford, librarian.

Wayne County (Mich.) Medical Society.—This Society held its thirty-sixth annual meeting at the Griswold House, Detroit, October 3. After the meeting the members present became the banquet guests of the retiring president, Dr. John J. Mulheron, who also acted as toastmaster. He reviewed the history of this, the oldest medical society in Michigan, and incidentally argued strongly for the benefit accruing to both the individual and the profession as a whole from active participation in society work. He advocated the publication of a quarterly journal by the Society, and the matter was referred to a committee for consideration. The following officers were elected: Dr. Samuel Bell, president; Dr. Charles C. Yarborough, vice-president; Dr. C. Henri Leonard, treasurer, and Dr. Hugh Mulheron, secretary.

Oregon State Medical Society.—The twenty-eighth annual meeting of this Society was held in Portland, September 25, 26 and 27. The attendance was large, and several prominent physicians from San Francisco, Chicago and Baltimore were present and read papers. The committee appointed to consider the resolution offered by Dr. George F. Wilson providing for the reorganization of the state society on the lines of the American Medical Association, reported that an amendment to the constitution of the state society was necessary to accomplish that end, and that such an amendment had to be offered one week prior to the meeting of the society. It was recommended, however, that a delegate and alternate to the National Association be elected. The report was adopted and Dr. Andrew C. Smith, Portland, was elected delegate and Dr. Edward P. Geary, alternate. The election of officers resulted as follows: Dr. Charles J. Smith, Pendleton, president; Dr. Walter T. Williamson, Salem, vice-president; Dr. Alexander D. Mackenzie, Portland, secretary, and Dr. William F. Amos, Portland, member of executive committee.

Utah State Medical Society.—The seventh annual meeting of this Society was held in Provo, October 1 and 2. President John W. Aird, Heber, in his address recommended that the State Society co-operate with the American Medical Association in an effort to unite more closely the medical profession of the United States. He stated that it would be necessary for the State Society to reorganize, so as to make it possible to amalgamate with the national society, and he recommended the election of three members as a committee on reorganization. Drs. John W. Aird, Heber; Andrew J. Hosmer, Salt Lake, and J. C. Elliot King, Salt Lake, were appointed as this committee, and the secretary was instructed to notify the county societies of the contemplated change in organization. A resolution presented favored the establishment of a psycho-physical laboratory by the Department of the Interior. Salt Lake City will be the place of meeting, and the date was changed from the first Tuesday in October to the second Tuesday in May, to conform to the time of meeting of the American Medical Association. The election of officers resulted as follows: Dr. Ira A. E. Lyons, Salt Lake, president; Drs. Philo E. Jones, Salt Lake, and Robert E. Steele, Lehi, vice-presidents; Dr. James N. Harrison, Salt Lake, treasurer, and Dr. George E. Robison, Provo, secretary.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held September 30.

President Dr. N. P. Dandridge, in the Chair.

DR. M. L. HEIDINGSFELD presented two patients of advanced age, who had been suffering from facial epithelioma, but who were now entirely well under local applications of arsenic. He also gave a lantern-slide exhibition showing numerous cases of ignored syphilis.

Excision of the Ileo-Cecal Valve; Tubercular Peritonitis.

DR. B. MERRILL RICKETTS presented a patient, a male, aged 28, who had been suffering from partial obstruction of the bowels for eight months. The abdomen was opened on the right side. The ileum was seen to be enormously distended, being fully the size of the cecum; a diverticulum also existed, extending from the cecum, about five inches long and an inch in diameter. The occlusion evidently existed in the valve and the most expedient thing seemed to be the excision of this valve, which was done and an end-to-end anastomosis made with silk sutures. Death occurred ten hours later from ex-

hallstion. Examination of the specimen showed enormous thickening and infiltration of the intestinal membranes constituting the so-called ileo-cecal valve, while both the mucous and serous membranes were studded with small miliary tubercles. Specimen exhibited. Dr. Ricketts also presented a case of multilocular ovarian cyst in a woman of 70, four cases of hematoma of the ovary, a case of purulent salpingitis, and twelve appendectomies, the latter all recovering.

Congenital Elevation of the Scapula.

DR. ALBERT FREIBERG reported this case: Patient aged ten months. From birth the mother had noted a protrusion over the left collar-bone and that the left side of the child's neck seemed to be much shorter than the right. On examination the neck contours were found to be altogether asymmetrical, but there was no scoliosis. The left scapula was much smaller than the right and evidently elevated. The inferior angle appeared to be about four cm. above the right; the superior angle projected well above the clavicle, indeed was practically subcutaneous. The coracoid process was felt below it and was on a higher plane than the corresponding process of the right side. Passively the scapula was easily moved with the arm, and both actively and passively all movements of the shoulder other than abduction were normal; abduction was limited to ninety degrees. The scapula did not appear to possess any abnormal attachment to the spine, but appeared to be tilted upon its vertical axis in such a way that the superior angle approached more nearly the median line. The thumb of the right hand was unusually small and was not moved to any great extent. Otherwise the child was well developed and nourished. He proposed to watch the child's development and at some future time to remove the superior angle of the scapula. The speaker then stated that in 1899 he had reported another case of elevation or misplacement of the scapula, congenital, in a child, in whom there was in addition a congenital scoliosis and imperfect development of the lower extremity on the affected side. As to etiology he thought it was due entirely to the maintenance that the shoulder holds during fetal life.

Intrauterine Fracture of the Tibia.

The patient, a male, aged four months, in whom from birth there had been noted a deformity of the left leg. There was no family history of deformity. The mother's labor was normal. At about the sixth month of her pregnancy, however, she remembered striking her abdomen against the stair banister, but as no symptoms appeared other than a momentary discomfort, she thought nothing more about it. The child was well developed and nourished, showing absolutely no abnormality except in the left leg. At the middle third of the leg was a hard, angular bend of almost ninety degrees, the apex of the angle presenting forward and inward, and the bone could be easily felt just beneath the skin. The left foot was five to eight inches shorter than the right, but as far as could be ascertained the foot was otherwise normally developed. The left limb was everywhere equal in circumference to the right. The diagnosis of intrauterine fracture of the tibia was made. There was no motion between fragments. Skiagraph showed a fracture of the lower fourth of the tibia. The upper fragment appears to be rounded off, the lower jagged. In May, 1900, an osteotomy was made and the correction of the deformity easily performed. Union did not begin for months, and when finally established the deformity had returned, the patient in the meantime having escaped observation. In September the child was again seen. Although he could bear his weight upon the limb the angular deformity was still very great. At this time two radiographs were made of the leg, one lying on its outer side, the other an antero-posterior view. The first of these shows that while the bones have developed in length and diameter there is no real bony union between the fragments of the tibia. It is also shown that only five tarsal bones are present, the os calcis, astragalus and three of the smaller bones, and articulation was very imperfect. The front view showed that the fibula was present in its entire length, but there seemed to have been a fracture just above the external malleolus. The lower epiphysis of both tibia and fibula seemed to be smaller than they should. The lower fragment of the tibia was seen to be bent not only forward but also outward toward the fibula. The relative size of both bones was otherwise normal. It seemed to the speaker that the case was one of intrauterine fracture of the tibia without defect of the fibula; the case was unusual in that in almost all of the hundred cases reported there was a coincident defect of the fibula as well as an absence of some of the toes or metatarsal and tarsal bones.

DR. C. A. L. REED presented a specimen of a large fibroid tumor of the uterus with very marked varicosity of the veins of the broad ligament so that in removing the tumor very severe hemorrhage was encountered.

Rupture of Kidney.

DR. JOSEPH RANSOHOFF showed a radiograph of stone in the bladder of a boy 5 years of age. Not only the size and shape but the lamellæ and nucleus as well could be plainly outlined. Dr. Ransohoff also exhibited a specimen of dermoid tumor, unilocular, weighing twenty-five pounds, removed from a woman 64 years of age. The same speaker also presented two specimens of rupture of the kidney, both removed by lumbar nephrectomy. In the first case the operation had not been performed until the ninth day after injury, the man at the time apparently suffering from intestinal obstruction. In the second case hematuria appeared shortly after injury. By the third day the fever was a prominent symptom and by the fifth day the temperature had risen to 103, with a pulse of 110 to 120. In making the nephrectomy little or no hemorrhage was encountered until the kidney itself was reached, though previous to the operation there was marked swelling in the region of the kidney. The reason for this was found to be because the blood had exuded between the surface of the kidney and its capsule. The upper portion of the kidney was almost completely torn away and from the appearance of the parts it might be very readily surmised that the force of the original injury had shoved the kidney against one of the transverse vertebral processes. The first case had died very promptly after operation but the second was convalescent; during the previous twelve hours, eight days after operation, he had passed 23 ounces of urine.

Painful Stump Following Amputation.

DR. J. C. OLIVER presented this case: The original operation was at the middle third of the thigh, made about ten months ago for a railroad crush. Ten days after amputation he had commenced to suffer severe pain in the stump; often referred to the heel and toes. On operation a false neuroma was found in the cicatrix and pressed against the bone. Several inches of nerve were removed and another false neuroma was discovered and removed a little to one side. He thought that here was also represented a good example of high division of the sciatic nerve.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, held in Philadelphia, September 24-26, 1901.

(Concluded from page 997.)

THIRD DAY—MORNING SESSION.

Encouragement of County Societies.

DR. MCCONNELL, New Brighton, offered a resolution recommending the personal visitation to county societies, in which there was evident lack of interest.

DR. KOENIG, Pittsburg, offered a resolution favoring the establishment of a psycho-physical laboratory in the Department of the Interior at Washington for the practical application of physiologic psychology to sociologic and abnormal or pathologic data. The resolution was accepted as read.

DR. GEORGE ERETY SHOEMAKER offered a resolution recommending the compulsory vaccination in schools.

GOVERNOR STONE addressed the Society, saying, "The doctors are the great levelers of society in the community. The village doctor, the 'country doctor' if you will call him, has a

stronger hold on the pulse of this country than any other man in it."

President McKinley's Case.

DR. JOHN V. SHOEMAKER offered a resolution that it was the sense of the Medical Society of the State of Pennsylvania that the physicians and surgeons in attendance upon our late Chief Executive, William McKinley, acted in accordance with the dictates of the best medical and surgical science and that they had the full confidence of the Society.

Address in Surgery—Torsion of Arteries.

DR. JAMES W. MACFARLANE considered the arrest of hemorrhage, particularly that by torsion. He divided torsion into two forms: limited, and free. In so far as the general public is concerned, he said, free torsion is the rule, as limited is not so advantageous. When free torsion fails primarily in a large artery, it is not limited torsion that is required, but the ligature, acupressure and perhaps the complete hemostatic armamentarium of the surgeon. In the matter of time, and the absence of danger of introduction of a foreign body into the wound, torsion is also superior. Another advantage is that an assistant is not required. Torsion in amputations was introduced into the Western Pennsylvania Hospital, Pittsburg, about 1870. Even atheromatous arteries are no bar to its use. The most probable cases in which torsion would not answer are in amputations contiguous to tissues changed by chronic inflammations. Torsion will not prevent secondary hemorrhage and the speaker cited a case in which infection occurred as the cause of secondary hemorrhage; after amputation torsion was again employed and recovery ensued. Exceptional cases were cited in which acupressure was superior to ligature or torsion.

The Operative Treatment of Bladder, Descent and Sacculation.

DR. GEORGE ERETY SHOEMAKER, Philadelphia, said that displacements of the bladder in the female may take place upward, backward, laterally, forward, or downward. Only in the downward direction is sacculation and imperfect evacuation liable to occur frequently, but its secondary effects are very important. He has seen but one case of pathologic forward dislocation. The various displacements with their symptoms were described. Operations above the pubis have little effect upon the bladder position if unsupported by other measures. The plan adopted by the writer was given in detail. Special attention was called to the method of taking up the redundant anterior vaginal wall and supporting the bladder.

The Present Status of the Bottini Operation as a Method of Treatment in Obstructive Hypertrophy of the Prostate Gland, Derived from a Summary of 834 Operations by 48 Operators.

DR. ORVILLE HORWITZ said that contrary to the accepted view that prostatic hypertrophy usually began in individuals over 50 years of age, he believes that the morbid condition commences much earlier, and quotes Dr. L. Bolton Bangs, who agrees with him. Regarding the objection to the Bottini operation held by some, he thought the recorded experience of trustworthy surgeons gave sufficient refutation of the charges that this operation is "uncertain, dangerous and the results obtained are temporary in character." The operation of complete prostatectomy is considered a much more formidable undertaking than that of the Bottini; it is fraught with greater danger, and only to be attempted in rare instances. He thought it worthy of note that the writers objecting to the Bottini operation on the theoretical grounds, had the least practice with the method. In none of the cases under Dr. Horwitz's care has contraction of the vesical outlet, a complication suggested by some, occurred. Pyelitis, though adding to the danger, is not a contra-indication. Four such cases have been operated. Age is not a bar, though the mortality is lower when the resisting power is strong. Statistics of the 843 Bottini operations were given, with a series of conclusions.

Surgery and Its Relation to Neurasthenia.

DR. G. D. NUTT, Williamsport, stated that in a large number of patients, prominent symptoms of a neurotic character, caused by disease, displaced or irregular muscular action of some organ, can be cured by surgical means. Examples of this class are diseases of the sexual organs, movable kidney, errors of refraction and muscular insufficiency of the recti muscles of the eye. In many cases of neurasthenia correction of abnormal conditions affecting the nervous system must precede the medical treatment. Since pathologic conditions cause nervous symptoms not directly connected with the affected organs, the question was raised, might there not be other diseased organs causing reflex disturbance yet unknown, to account for the large and increasing number of neurasthenics?

Rare Complications in Appendicitis with Their Treatment.

DR. ERNEST LAPLACE, Philadelphia, presented cases in which these complications had existed. They had a history of a previous acute attack, cured by medical measures, with, however, remaining obscure abdominal pain. Such cases had been erroneously diagnosed as affections of nearly every organ in the abdomen. In view of the difficulty in absolute diagnosis, the necessity of proper surgical intervention was pointed out. Particularly is this necessity apparent when it is realized that pain may be absent in acute appendicitis, or felt at a totally different spot; that fever may be absent, or range to 104 or 105; that a general disturbance and local rigidity are perhaps the only constantly present symptoms of the disease. In every case of appendicitis it should be borne in mind that there was a time when operation would have saved life.

DR. JOSEPH PRICE made the statement that "more people are dying to-day of appendicitis than from an epidemic of smallpox." Chronic cases ought never to occur. Well-marked symptoms, late in the cases, evidenced the fact that the early symptoms should have been detected by a good clinician. He believed the public would come to hold the clinicians thrice responsible for early diagnoses. The complications mentioned in Dr. Laplace's paper should have been prevented by proper recognition of the early conditions.

DR. ADOLPH KOENIG, Pittsburg, said that he was a general practitioner and as such believed that the general practitioner should use good judgment. He had been in practice twenty-two years and had never yet lost a case of appendicitis which he had had from the beginning. If he saw that a case was not improving under medication he would call in a surgeon, but asserted that a surgeon had no right to operate in a mild inflammatory condition mistaken for appendicitis.

DR. MORDECAI PRICE reinforced the sentiments of the paper and the expressions of Dr. Joseph Price. His common experience of meeting physicians who had never seen a case of appendicitis, he thought, was explained by the fact that the condition was not recognized. In almost any intraperitoneal inflammation you can safely operate for appendicitis.

DR. LAPLACE, in closing, said that inasmuch as the complications are numberless and the diagnosis is often difficult, the patient should be given the benefit of the doubt and the chance of recovery from immediate operation. If the appendix could be purged of its offensive material by drastic measures this should be done. Should the pain reappear after having disappeared, nothing could do justice but the knife. If everybody were rightly treated we would not hear of a case of appendicitis. An "unsuccessful operation" meant that somebody had blundered; the medical man had treated too long, or the surgeon has been a "dirty" surgeon. With the present understanding of appendicitis, the patient should live.

A Case of Perforating Typhoid Ulcer; Laparotomy. Recovery.

DR. W. L. RODMAN, Philadelphia, reported a case of perforating typhoid ulcer in the fifth week, followed by extensive general peritonitis, with an operation thirty-seven hours after the accident. The perforation was found directly under the incision. It was as large as the end of a finger and there was considerable extravasation into the cavity. The opening was rapidly closed with Lembert sutures, and the cavity was flushed with hot saline solution. A large amount of iodoform gauze was introduced at the upper end of the incision, and carried carefully down to and around the perforation, so as to

protect the cavity from further possible infection, and also to facilitate drainage. A drainage tube was introduced at the lower end of the wound. Although the case was *in extremis*, with a pulse that could not be counted, the abdomen being like a tightly distended drum, the patient made an unexpected recovery, that is, to-day is perfectly well. The gauze was removed on the tenth day, portions of it having been withdrawn several days earlier. The drainage tube was removed at the end of the sixth day. Time of operation from beginning to end was sixteen minutes. Ether was used as an anesthetic. Dr. Rodman's impressions from this case were: 1. That a case of perforation, even though general peritonitis had begun, should be given the benefit of a laparotomy, if in a hospital where such work can be done with reasonable dispatch. This operation was done at least thirty-seven hours after the perforation. There have been, according to Keen in his monograph, but two successful cases reported where so great a time had elapsed between the accident and the operation, and one of these is doubtful, inasmuch as the perforation was not found. There could be few seemingly more desperate cases than this one, and this, together with a case of general peritonitis following a gunshot wound of the intestine and operated upon successfully fifty-one hours after the accident, has shown that it is rarely too late to give such cases the benefit of surgery. 2. That general anesthesia can be borne even in as grave a condition as this patient was in at the time of operation; she was practically pulseless. Cocain was considered at the time, but the patient was too young to give intelligent co-operation, so necessary for the performance of a laparotomy in the shortest possible time. A third question which might be raised is, how frequently will pathologic perforations of the gut in typhoid fever repair themselves without surgical intervention? Recovery does occasionally take place; the percentage has been estimated to be between 3 and 10 per cent. A much larger number will recover from operation and intervention is indicated. While it may be undoubtedly proper to decline interference in military practice on account of the limited facilities in field hospitals, the rule of action should be just the opposite in civil practice. There is an analogy between traumatic and pathologic perforations of the intestines, not complete, but involving the same general principles, and their treatment should be similar, namely, perform laparotomy as early as is consistent with the existing shock. It is as much a duty to operate in both conditions as it is to tie a bleeding vessel in hemorrhage.

DR. JOSEPH PRICE considered the operation in this case the acme of good surgery.

DR. ELLA B. EVERITT, Physician-in-Charge at the Woman's Hospital, said that it had been with the greatest interest that she had watched the case. Drainage from the tube was continued for a week after the operation and drainage from gauze a day or two later. Pus cells were present, but no active organisms were found. She thought the lesson was evident that such patients were entitled to operative interference even though, as was this child, almost moribund. The severity of the attack was so great that it seemed that the child could hardly have lived even without this grave operation. The result was doubly gratifying. The occurrence of a small hemorrhage after the operation was also noted as a second complication. The child rallied well from this and went on to a satisfactory recovery.

DR. ELIZABETH BUNDY said the point of interest to her was the range of the persistent temperature. The condition of the child had begun to improve within an hour from the time of the accident.

A Case of Ascites Due to Syphilitic Cirrhosis of the Liver.

DR. W. J. ROE, Philadelphia, presented the report of this case. Seventeen months after the beginning of ascites, and fourteen months after the first paracentesis, he transplanted the omentum between the perietal peritoneum and the abdominal wall, suturing the omental border of the stomach and colon to the margins of the artificial pocket. Previous to operation, paracentesis was performed 31 times, with an average of 150 ounces and of 14 days' interval. Subsequent to operation, it was performed 21 times; the average was 218 ounces and 12 days' interval. Marked improvement in her general health ensued. After six months her general condition reverted to that at the time of operation and death occurred at the end of eight months. Autopsy showed extensive vascular adhesions, a horseshoe kidney and syphilitic cirrhosis of the liver.

THIRD DAY—AFTERNOON SESSION.

Address in Obstetrics.

DR. DAVID FUNK, Harrisburg, presented the status of several of the more serious obstetric complications and operative procedures. From the standpoint of the general practitioner it was stated that placenta previa would probably remain one of the most disquieting and alarming complications, because there can be no prophylaxis and because of the appalling rapidity with which it destroys life. Symphysiotomy as an operation of election would appear to be gradually displaced by Cesarean section, where the high forceps operation is dangerous. Puerperal septicemia and ectopic gestation were considered in detail. The responsibility of the general practitioner in making an early diagnosis in ectopic gestation, is emphasized. Points of differential diagnosis are as follows: Previous history of sterility; cessation of previously regular menstrual periods; irregular bleeding; colicky pains, and nausea and vomiting. Puerperal eclampsia with its etiology and treatment was considered. As to the etiology, writers are agreed upon a single point—toxemia; in the treatment, serum therapy is regarded as a problem of the future.

The Ultimate Results of Operation for Cancer of the Uterus.

DR. CHARLES P. NOBLE, Philadelphia, emphasized the fact that the greatest problem confronting the medical world is the causation and cure of cancer. In a review of the recent American, French and German literature, it was shown that hysterectomy for cancer of the cervix cures about 10 per cent. of cases; based upon the standpoint of freedom from recurrence at the end of five years, the figures of different surgeons varying from a percentage of zero to twenty of cures. Hysterectomy for cancer of the body of the uterus gives better results, at least 75 per cent. being cured. The writer reports 32 cases of hysterectomy for cancer. Of these 10 have died of recurrence and 1 of pneumonia; 6 cases have been lost sight of, and 2 cases of cancer of the cervix are known to have recurred. The remaining 13 are free from recurrence at the present time. The hope for improvement in results lies in early diagnosis. The fallacy of the doctrine of climacteric hemorrhages is insisted upon, and it is strongly urged that all cases with irregular discharges would be promptly investigated.

Instrumental Perforation of the Uterus.

DR. WILMER KRUSEN, Philadelphia, discussed the conditions which soften the uterus and render the accident liable—carcinoma, anemia, tuberculosis and subinvolution. The different perforations are enumerated with the results. He reported a case of perforation of the uterus at the fundus, in which the omentum had been caught by the curette and drawn through the uterus into the vagina. He saw the case within two hours after the accident and immediately performed celiotomy, with an interrupted recovery. He emphasized the necessity for care, cleanliness and special training in all intrauterine manipulations.

Some Surprises in the Practice of Obstetrics.

DR. R. B. EWING, West Grove, reported a series of obstetric cases interesting from the fact that the unexpected occurred. They were illustrative of the terse expression of one of the most gifted medical authors and teachers of America, who after a lifetime of active service as an obstetrician said: "The practice of obstetrics is full of surprises."

A Parasitic Skin Disease.

DR. JOHN V. SHOEMAKER, Philadelphia, exhibited a patient with a peculiar parasitic disease of the skin. Some of its characteristics are its appearance between the ages of 20 and 40,

being found by preference upon the anterior portion of the chest, appearing as somewhat irregular patches. It differs from liver spots in that the cause is from without the body, the parasite is conveyed from water or from decayed vegetable material. Sometimes clean linen will contain the germs. He recommended the use of the ordinary corrosive sublimate, the copper salts whether in sulphate or the oleate, and mercury in the form of ointment as the oleate of mercury. He especially emphasized the fact that water should not be used; alcohol, or alcohol in the water should be applied.

A Remarkable Case of Infantile Typhoid of Fetal Origin with Recovery.

DR. HARRY C. WESTERVELT, Pittsburg, reported the case of a woman seven months pregnant with the third child, who had typhoid fever. The child was delivered at seven months and the mother had a severe course of the fever, but made a good recovery. The child presented the characteristic "old man" appearance of the prematurely born, and weighed 9 pounds, 14 ounces. A temperature of 103.4 F. soon appeared. The fever ran the regular course; the child recovered and presents every appearance of a healthy babyhood.

The Effects of Typhoid Fever on the Nervous System.

DR. C. C. HERSMAN, Pittsburg, considered impure air, food, and water the most frequent causes of typhoid fever. In the majority of cases the nervous system is the first attacked by the poison. Not infrequently is the cardiac ganglion and nerve supply of the heart in general supercharged with the poison. The resulting symptoms were given in detail and the convalescence described. Meningitis was mentioned as a grave complication. Two such cases had been treated by the writer within the past two years, one of which recovered. Friedlander, Berlin, was quoted as giving 80 per cent. mortality in typhoid meningitis. Tubercular predisposition in children was mentioned as a fruitful source of typhoid meningitis.

The Value and Importance of Teaching the Fundamental Branches of Medicine from the Standpoint of Their Practical Application.

DR. GWILYM G. DAVIS emphasized the fact that teaching should be conducted so that the student understands his subject instead of simply knowing isolated facts. Medicine, it was said, requires too much of a man to enable him to qualify by simply memorizing his subject. Text-books are too statistical and not sufficiently explanatory. Examiners should avoid catch questions and give such that require an understanding of the subject for their answer.

To teach the student to think, not summarize, is the object. The day of the true pedagogue, though long delayed, is at last dawning.

Ruptured Tubal Gestation and the Physician.

DR. JOHN M. FISHER, Philadelphia, stated that no form of acute supravaginal pelvic disorder is fraught with more immediate danger to the life of the individual, and yet none in the vast majority of cases is more readily diagnosticated by the experienced gynecologist, and none can be more satisfactorily dealt with by the surgeon than that of ectopic pregnancy. The diagnosis being made, prompt surgery, with but few exceptions, saves the patient. With comparatively few exceptions Dr. Fisher stated that the condition is tubal. The causes are enumerated and the symptoms described. In the light of the perfected methods in surgical technic of the present day the author declares that so-called conservative plans are not to be considered, save in so far as they add to the ever-increasing number of unfortunates to our mortality statistics.

The Kidney Complications of Typhoid Fever.

DR. JAMES ELY TALLEY, Philadelphia, in this paper enumerated these complications as albuminuria, acute parenchymatous nephritis, hemorrhagic nephritis and suppurative nephritis. In a series of over 15,000 cases albuminuria occurred in 29 per cent. of cases. Acute parenchymatous nephritis occurred in 3 per cent. of a series of over 18,000 cases with a mortality of from 30 to 50 per cent. Edema is rarely produced, and, if the patient lives, the nephritis almost never becomes chronic; only two such cases are recorded in over 37,000 cases of typhoid. Hemorrhagic nephritis is defined as but an aggravated form of the acute parenchymatous nephritis. It tends strongly toward uremia and has a very large mortality. Suppurative nephritis occurs occasionally, and in these cases typhoid bacilli have been found frequently in the pus or kidney substance at postmortem. If chronic nephritis exists and typhoid intervenes the mortality is very high, over 90 per cent. Albuminuris and acute nephritis occur in the typhoid fever of children with about the same frequency as in adults.

New Method of Performing Nephropexy.

DR. HENRY D. BEYEA, Philadelphia, described in full the surgical treatment. The operation is indicated only in those cases where the pathologically mobile kidney produces a complex of symptoms inducing persistent ill-health, and the prescribed medical and mechanical treatment either fails to give relief, or, in the judgment of the physician, is impracticable from the beginning.

Statistics of Typhoid Fever at the Philadelphia Hospital from Jan. 1, to Dec. 1, 1899.

DR. HERMAN B. ALLYN gave the following statistics: Whole number of cases 184; 135 were males and 49 females; 146 were white and 38 black or mulattoes. The fatal cases numbered 31, a mortality of 16.84 per cent., accounted for largely by the character of the patients and stage of the disease at the time that they were admitted. The patients were made up of the homeless, neglected, dissipated and outcast. Half the fatal cases occurred in negroes, although they constituted only about one-fifth of the whole number of cases. Moreover, only one-fifth of the fatal cases—6—were admitted during the first week, and 23 after the disease had lasted two weeks or more. The causes of death, following Osler's classification, were: Asthenia, 14; intercurrent affections, 9; accidents of the lesion, 8. The Gruber-Widal serum reaction was in accord with the final clinical diagnosis in 88 per cent. of the last 113 cases.

Fracture of the Neck of the Femur—Report of a Case. X-Ray and Specimen.

DR. CHARLES E. THOMSON, Scranton, reported the case of a patient, aged 62, who sustained a fracture in August, 1899. The patient was bedridden for three months. The shortening amounted to two and one-half inches and the hip was very painful. The operation was described. A solid silver nail, three-sixteenths of an inch in diameter and two and one-half inches long, was driven through the neck and into the head of the femur. The bone flap was replaced and retained by a small silver nail. One year after operation the patient had three-quarters of an inch shortening with 90 degrees free and painless motion. Death occurred from intercurrent disease six months later. The specimen showed firm bony union.

The Pathology, Symptomatology and Treatment of Uremia.

DR. DAVID RIESMAN, Philadelphia, presented a very valuable paper devoted to a portrayal of certain less common forms of uremia, namely, uremia associated with hemiplegia, aphasia, mental confusion and insanity. Two points in the treatment were emphasized: bleeding, and sweating. The patient is put into a hot bath of 110 F. for ten minutes, taken out and then put into a hot pack for twenty minutes.

The Etiology of Acute Dysentery.

DR. SIMON FLEXNER, Philadelphia, said that reports of bacteriologic work in the tropics, Japan, Germany and this country on the etiology of acute dysentery, agree that there is present a septic organism quite peculiar and not found in the body under normal conditions, which seems to be present uniformly when cases of acute dysentery arise. The fact is a matter of importance in respect to the causation of this serious disease and to its prevention. It would appear that the sporadic cases have the same origin as the acute dysentery, and this is of particular importance in the consideration of epi-

demics. The micro-organism that has been discovered is the organism bearing more or less resemblance to the bacillus of typhoid fever. It occurs in the intestines and can be obtained from the dejecta. It does not occur in health or in other diseases; moreover, the blood serum will give a reaction similar to the Widal reaction. It seems probable, therefore, that, as a result of this work, the septic organism of acute dysentery has been observed. It does not exclude the amoeba. It is possible by the use of this organ to produce serum that may be curative.

In Closing.

Dr. F. B. Ball, the new president, was introduced by Dr. Davis, who welcomed him in a few graceful words. After a short address by Dr. Ball, and a resolution of thanks to all those who had participated in the arrangements for the pleasure of the Society and the success of the meeting, offered by Dr. Alexander Craig, Columbia, the meeting was declared adjourned. The next meeting will be held at Allentown.

CHICAGO ACADEMY OF MEDICINE.

Regular Meeting, held September 13, 1901.

Dr. W. X. Sudduth in the Chair.

Forensic Eye Aspect of Locomotor Ataxia.

Dr. James G. Kiernan presented a paper on this subject. A recent suit against the Chicago Union Traction Company was based upon a diagnosis, made of locomotor ataxia, chargeable to an alleged traumatism occurring fourteen days previous to examination, from an alleged condition of the pupils of which no clear description was given. The diagnostician (a member of the family) had observed the pupils under disadvantageous conditions. From his testimony it would appear that this physician had a crude notion that there was reflex iridoplegia or the Argyll-Robertson pupil. He did not use this term, nor did he describe the procedures he adopted in testing the pupil. No other symptoms of locomotor ataxia were described. The Argyll-Robertson pupil is reflex iridoplegia associated with preserved accommodative mobility, that is, where the pupil is as immovable as a frozen opening, no matter how brightly illuminated or how deeply shaded, but contracts when the finger is approached to the nose. It is found early in locomotor ataxia, but it is also found in paretic dementia, and, as might be expected, in constitutional syphilis. It has even been claimed that it is a diagnostic mark of this last condition. Cases of constitutional syphilis, however, occur quite frequently in which reflex iridoplegia is absent. The position taken by Spitzka, fourteen years ago, that this condition is rarely found in constitutional syphilis, can not now be maintained. A temporary iridoplegia has been noted after railroad accidents and other shocks. Exceptionally, the same pupillary condition has occurred in alcoholism and after diphtheria in the adult. For forensic diagnostic purposes this pupil is not pathognomonic of locomotor ataxia. In the case in which the question was raised, the patient had died before trial. The jury gave less than one-tenth of the statutory limit. If the litigant really had locomotor ataxia, this condition, in Dr. Kiernan's opinion, had preceded the accident and was in all probability then contributory thereto. The man had driven a United States mail wagon on the tracks in front of a street-car. Locomotor ataxia under such conditions could prevent him turning in time.

Dr. Casey A. Wood was of opinion that due care was not always exercised by general practitioners, forensic physicians, or even ophthalmologists in the diagnosis of the Argyll-Robertson pupil. There were so many conditions in which similar states occurred that the diagnosis of locomotor ataxia on this symptom alone was not justified.

Dr. William L. Baum could not agree with certain syphilographers as to the pathognomonic diagnostic value of the Argyll-Robertson pupil in constitutional syphilis. In his experience it was too frequently absent to be regarded as pathognomonic of constitutional syphilis. The fact that it occurred in para-syphiloses, like locomotor ataxia and paretic dementia, did not necessarily demonstrate its value as a symptom of constitutional syphilis.

Dr. Kiernan, in closing, agreed with both Dr. Wood and Dr. Baum, that the pathognomonic value of the Argyll-Robertson pupil in constitutional disease was doubtful.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Bronchitis.

Just at this time of year the physician comes in contact with a great number of patients complaining of colds in the head and bronchial catarrh. In the larger cities this is due in a great many instances to the steam-heated apartments. People emerging from a warmer atmosphere are exposed to the cold air and the body becomes chilled, the circulation of the skin is greatly disturbed and the bronchial mucous membrane congested. Those patients suffering from organic heart lesions—especially where mitral lesions are present, producing a congested condition of the pulmonary circuit—are more susceptible to the changes in the atmosphere and the weather. Such conditions in the extremes of life make the prognosis in attack of bronchitis more unfavorable. The treatment must be directed to the different phases of the disease and to the special symptoms which may arise in each individual case. In this connection we wish to emphasize one point in the management of such cases, just as in all cases of infection, and that is—watch the elimination. Elimination should be promoted, not alone by the kidneys but also by the skin, bowels and respiratory tract. In this way the catarrhal turgescence of the mucous membrane is lessened and the process of free secretion is established. The patient should be cautiously and well fed with most digestible food, having warm clothing for the body and proper protection for the chest. In the milder forms of acute bronchitis the following is of service as an expectorant:

℞.	Ammon. carb.	℥iss	6
	Ammon. bromidi	℥ii	8
	Vini ipecacuanhæ	℥iv	16
	Aq. menthæ piperitæ q. s. ad	℥iii	96

M. Sig.: One teaspoonful every four hours in water; or:

℞.	Ammon. chloridi		
	Sodii salicylatis, āā	℥ii	8
	Tinct. hyoscyami	℥v	20
	Mist. glycyrrhizæ co. q. s. ad	℥iii	96

M. Sig.: One teaspoonful every four hours.

If the patient is strong and of a well-marked sthenic type, according to Sir T. Granger Stewart, antimony is a drug of great efficacy, as follows:

℞.	Vini antimonialis		
	Vini ipecacuanhæ, āā	℥iii	12
	Spts. chloroformi	℥iss	48
	Liq. ammon. citratis q. s. ad	℥vi	192

M. Sig.: One tablespoonful in water every six hours; or:

℞.	Vini antimonialis	℥ii	8
	Spts. etheris nitrosi	℥ss	12
	Liq. ammon. acetatis q. s. ad	℥vi	42

M. Sig.: One tablespoonful in water every six hours. Discontinue when there are symptoms of depression or when free expectoration is established.

In patients presenting signs of feebleness or general weakness, expectorants must be combined with cardiac stimulants, as follows:

℞.	Ammon. carb.	gr. xl	2 66
	Spts. ammon. arom.	℥vi	24
	Aq. chloroformi q. s. ad	℥iv	128

M. Sig.: One tablespoonful every five or six hours; or:

℞.	Tinct. strophanthi	m. xl	2 66
	Spts. ammon. arom.	℥vi	24
	Aq. chloroformi q. s. ad	℥iv	128

M. Sig.: One tablespoonful every six hours.

When the cough is dry and very troublesome at night, so that the patient is unable to sleep, the following containing codein is valuable, which should, however, never be given so long as the cough brings up phlegm, but to quiet an aggravating cough, is useful.

℞. Ammon. carb. ..... ℥ss 2
Codeinæ ..... gr. iv 25
Tinct. hyoscyami ..... ℥i 32
Syr. pruni virg. ..... ℥iss 48
Aq. camphoræ q. s. ad ..... ℥iv 128

M. Sig.: One dessertspoonful every two or three hours.

The free use of expectorants is of advantage in getting rid of particles of dust and foreign substance, which have lodged upon the mucous membrane and act as irritants to the respiratory passages. But we wish to suggest care in the use of anodynes as in the foregoing prescriptions, for too free use of opiates and anodynes impair digestion, produce anorexia, cause constipation and quiet the cough, through which nature is attempting to remove causative factors.

Organic heart lesions, such as mitral regurgitation or obstructive lesions, producing marked congestion and distension of the bronchial vessels, cause a cough and sometimes an acute inflammation. In these cases measures must be taken to support and remove the load by proper cardiac stimulation and free elimination. The patient should be put to bed, so as to reduce the work of the heart, and the following is recommended in such conditions:

℞. Ammon. carb. ..... gr. xl 2 66
Infusi digitalis q. s. ad ..... ℥iv 128

M. Sig.: One tablespoonful in water every five or six hours.

Acting as indirect heart stimulants by dilating the peripheral blood vessels and thus relieving the pulmonary congestion and at the same time promoting diuresis, the nitrites are valuable:

℞. Spts. glonoini (1 per cent.) ..... m. vi 36
Spts. etheris nitrosi ..... ℥iss 6
Spts. chloroformi ..... m. vi 36
Alcoholis ..... ℥i 4
Aquæ q. s. ad ..... ℥iii 96

M. Sig.: One tablespoonful every four hours.

Cases of bronchitis, with a history of rheumatism, are best treated by the use of the salicylates in some form, combined, perhaps, with alkalies, as follows:

℞. Sodii salicylatis
Sodii bicarb., āā ..... ℥ii 8
Syr. glycyrrhizæ co. ..... ℥ss 2
Aq. foeniculi q. s. ad ..... ℥iv 128

M. Sig.: One tablespoonful in water every four hours.

And in gouty bronchitis colchicum is very valuable, if a proper preparation of this drug can be obtained. But as is the case in a few other drugs the value of this drug is uncertain, because of the unreliability of the crude drug used in making the medicinal preparation. The following combination is advised:

℞. Vini colchici (sem.)
Vini antimonialis, āā ..... ℥iiss-iv 10-16
Pot. bicarb. ..... ℥ss 16
Aq. gaultheriæ q. s. ad ..... ℥vi 192

M. Sig.: One tablespoonful four times a day in water.

CHRONIC BRONCHITIS.

The chronic forms of bronchitis require special attention in their treatment, because the degree of activity is not so great as in the acute, but the condition may go on for months or years, being kept up by constant irritation from some source, and this should be sought for and removed if possible. Even greater care must be observed in the clothing, the occupation, the food and the climate. However, in no disease, as Loomis states, is a careful study of each individual case more important. This form of bronchitis occurs in connection with emphysema and diseases of the heart and kidneys in elderly people, and, under such circumstances, the particular cause should be discovered and treated in each case.

Potassium iodid is very often used to good advantage, and has been found very efficient in the majority of cases. The following formula is recommended:

℞. Potassii iodidi ..... ℥ii 8
Syr. picis liq. ..... ℥iii 12
Syr. acidi hydriodici ..... ℥v 20
Syr. tolutani q. s. ad ..... ℥iii 96

M. Sig.: One teaspoonful four times a day in water.

The aromatic balsams, combined with a mild anodyne, are serviceable if the cough becomes troublesome:

℞. Balsami copaibæ
Pulv. camphoræ, āā ..... ℥i
Pulv. acaciæ, q. s.

M. Ft. capsulæ No. xv. Sig.: One capsule four times a day; or:

℞. Copaibæ ..... ℥ii 8
Spts. chloroformi ..... ℥ss 2
Mucilag. acaciæ ..... ℥vi 24
Aq. camphoræ q. s. ad ..... ℥vi 128

M. Ft. mistura. Sig.: Two tablespoonfuls three times daily.

Turpentine is sometimes very efficacious, and it may be given in capsule or in the form of an emulsion according to Yeo:

℞. Olei terebinthinæ ..... ℥ii 8
Mucilag. acaciæ ..... ℥i 32
Mist. amygdalæ q. s. ad ..... ℥vi 192

M. Ft. mistura. Sig.: Two tablespoonfuls at each dose, every six hours.

Creosote is a valuable preparation in chronic bronchitis, and may be given in capsules or in the liquid form as follows:

℞. Creosoti ..... ℥ss 2
Aq. chloroformi q. s. ad ..... ℥ii 64

M. Sig.: One teaspoonful four times daily.

As a good stimulating expectorant in cases of chronic bronchial catarrh with profuse, stringy, adhesive mucus, such as is often met with in the aged, the following is recommended by Yeo:

℞. Ammon. carbonatis
Sodii bicarb., āā ..... gr. xl 2 66
Tinct. camph. comp. ..... ℥iv 16
Spts. chloroformi ..... ℥iss 6
Infusi senegæ q. s. ad ..... ℥viii 192

M. Ft. mistura. Sig.: Two tablespoonfuls every five or six hours, administered in hot water.

Medicolegal.

Period of Gestation.—The Supreme Court of Nebraska says, in the case of Erickson vs. Schmill, that, while there is no absolute rule upon the subject, by general consent, based on extended observation, the usual period of gestation is considered to be about 280 days. This is common knowledge, which courts may be assumed to possess. But that the possible period of embryonic existence is more than 300 days is a fact which courts are not bound to know and act on in the trial of causes. That is to say, courts do not take judicial notice of the fact that the possible period of gestation exceeds ten calendar months.

By Whom Existence of Blood May Be Proved.—It is not necessary, the Supreme Court of Idaho holds, in the murder case of State vs. Rice, that an expert witness, or one skilled in chemistry, be called to prove the existence of blood. The experience of man "from the cradle to the grave" so familiarizes him with the appearance of blood that every witness possessing the full use of his senses, who is competent to testify to other matters, is competent to testify to the existence of blood, or presence of blood stains. It is only where there is doubt as to whether the blood is that of a human being or that

of some inferior animal that the aid of chemistry or expert witnesses is necessary.

Physician Calling Wife as Witness to Contract.—The statutes of the State of Washington provide that in an action or proceeding where the adverse party sues or defends as executor, administrator or legal representative of any deceased person, a party in interest or to the record shall not be admitted to testify in his own behalf as to any transaction had by him with, or any statement made to him by, any such deceased person. The case of Whitney vs. Priest was an action by a physician against an administrator for compensation for professional services rendered to the decedent, the wife of the administrator, during her last illness. At the trial, the physician's wife was permitted to testify that she was present with her husband, and that he and the decedent agreed upon the terms of the contract for his surgical treatment of her. This was objected to, as being inhibited by the statute, and the Supreme Court of the State of Washington holds that it was error on account of which the judgment obtained for services must be reversed. It says that the plaintiff and the witness were, as before stated, husband and wife. The professional services which were the subject of contract between the plaintiff and the deceased involved the community interest. The compensation for such services belonged to the community. The physician's wife was interested equally with her husband. She was equally interested in the result of this action. She must necessarily be said, therefore, to be a party in interest, and the transaction and the statements made to the plaintiff physician must equally involve his wife. Hence, the witness fell within the disability of the above provision of the statute, and it was error to admit her testimony as to the transaction and statements made by the deceased to the plaintiff.

Skill Required; Consultation; Diagnosis; Harshness.—The Appellate Court of Illinois, First District, in the malpractice case of McKee vs. Allen, holds that a difference of judgment among medical men as to the best course and method of treatment does not by any means tend to prove that either party is wholly wrong or wholly right. A physician who has given a patient the benefit of his best judgment is not liable for negligence even if his judgment is erroneous, unless the error is so gross as to be inconsistent with reasonable and ordinary skill and care. Again, the court holds that it is the duty of physicians and surgeons to exercise reasonable and ordinary care, skill and diligence in the practice of their profession. To this extent they are liable and no further. They are not required to possess the highest, but reasonable skill. The burden of proof is upon the plaintiff in an action for malpractice to show the want of such care, skill and diligence, and also to show that the injury complained of resulted from failure to exercise these requisites. It can not be said as a matter of law, where a physician recommends a method of treatment recognized and approved by the standard authorities upon medicine and surgery as appropriate to the case in hand, and consults another physician or surgeon who has had experience in the use of such method, and who, after examination of the patient, concurs in his judgment, and the patient submits to the treatment upon such advice, that he has failed to exercise ordinary care, skill or diligence in making such recommendation. If he has not so failed he is not liable. The physician or surgeon is not an insurer of a successful result. Furthermore, the court holds, in this case, that if the diagnosis in question be considered erroneous in calling the disease, which was sciatic rheumatism, chronic, instead of acute, it must still appear that his error in judgment in this respect was not consistent with reasonable and ordinary skill and care; and it must further appear that surgical treatment of acute sciatica was so clearly unwarranted, and such a violation of sound rules of professional practice, as to be also inconsistent with ordinary and reasonable medical skill and care. Then, there was some evidence in this case tending to show that the physician, in the effort to manipulate and straighten the patient's leg, several times resorted to what in her sensitive condition was very painful treatment. But it was apparent that it was employed as a curative measure, and it was not shown to have been injurious. This being all that the court has to say about it is that if his methods in this respect were harsh, the patient was not obliged to retain him in attendance, but was at liberty to employ other medical aid.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, October 3.

1 *A Case of Myeloma of the Spine, with Compression of the Cord. John Jenks Thomas.
2 Hydrotherapy in Chronic Disease. (To be concluded.) Simon Baruch.
3 *Association of Anemia with Chronic Enlargement of Spleen. Arthur H. Wentworth.
4 Infantile Scurvy. Edward L. Peirson.
5 Rhachitis. Arthur R. Crandell.

Medical Record (N. Y.), October 5.

6 *The Use and Limitations of the Elastic Ligature in Intestinal Surgery. Theodore A. McGraw.
7 *The Proper Method of Teaching the Anatomy of the Nervous System. L. Harrison Mettler.
8 *Pre-medical Education. Stanley Coulter.
9 *The Chest Pantagraph and the Manometer—Their Clinical Use and Value. C. B. Van Zant.
10 *Pistol-shot Wounds. Thomas Hayes Curtin.

Philadelphia Medical Journal, October 5.

11 *A Lecture on Strangulated Hernia. Carl Pfister.
12 *The Sanatorium Treatment of Tuberculosis. Arthur J. Richer.
13 Orthopedic Treatment of Deformities and Disabilities Resulting from Diseases of the Nervous System—Special Reference to Tendon Transposition. B. E. McKenzie.
14 Melancholia and Its Treatment. George Stockton.
15 The Treatment of Acute Otitis Media. Frederick L. Jack.
16 *The Close Relationship Existing Between Epilepsy and Dyspepsia. Charles D. Aaron.

New York Medical Journal, October 5.

17 *The Lane Lectures on the Social Aspects of Dermatology. Malcolm Morris.
18 Laryngology and Its Place in Medical Education. (To be concluded.) Henry L. Swain.
19 *The Influence of Climate upon Nervous Diseases, Considered from a Physiological Standpoint. F. Savary Pearce.
20 Was the Epidemic that Raged in Athens, B. C. 430, Genuine Bubonic Plague? Henry M. Fisher.
21 *Acute Amygdalitis: Its Treatment by the Local Application of Tincture of Iodin. Samuel Floersheim.
22 Review of a Few Cases of Wounds Caused by Bullets from Revolvers of Moderately Large Caliber. J. Hobart Egbert.

American Medicine (Philadelphia), October 5.

23 *Primary Cancer of the Gall-bladder and Bile-ducts. W. P. Manton.
24 *The Heredity of Appendicitis. F. Forchheimer.
25 *Cleft Palate and Its Relation to Speech G. Hudson Makuen.
26 A Case of Endocarditis Developed During Typhoid Fever. J. A. Scott.
27 *The Efficacy of Quarantine and Fumigation in the Prevention of the Spread of Yellow Fever Without Molesting the Mosquito. Jos. Waldauer.
28 On the Agency of Parasitic Vermin and Other Insect Pests in the Spread of Disease. George Homan.

Medical News (N. Y.), October 5.

29 Acute Rheumatism.. Wm. Watt Kerr.
30 *Anesthesia and Analgesia; A Study of Drug Action and Modern Methods. William Seagrove Magill.
31 Lager Beer in Acute Vomiting. Louis Kolipinski.
32 Conservative Operations upon the Uterine Adnexa. Henry T. Byford.
33 *Acute Edema of the Uvula, Palate, Pharynx, and Epiglottis, Following the Excessive Application of Adrenal Solution Preserved with Chloretone. Solomon Solis Cohen.

Cincinnati Lancet-Clinic, October 5.

34 Occipito-posterior Positions of the Vertex. William Gillespie.

St. Louis Medical Review, October.

35 *A Means of Reducing an Overgrowth of the Inter-maxillary Frenum, Permitting the Retention of Two Central Incisors in Close Apposition. Hanau W. Loeb.

Virginia Medical Semi-Monthly (Richmond), September 27.

36 *A Case of Movable Liver—Hepatopexy. J. H. Carstens.
37 Anchylostomum Duodenale in Virginia. Wm. B. Gray.

Iowa Medical Journal (Des Moines), September 15.

38 President's Address, Sioux Valley Medical Association. J. N. Warren.
39 Cancer of the Breast. Frank S. Hough.
40 The Influence of Impaired Hearing upon the Development of the Child. F. A. Powell.

41 What Can We Do to Mitigate the Horrors of Quarantine to the Laity? E. D. Frear.
42 The Toxemia of Pregnancy. Chas M. Wade.
43 Arthritis. P. L. Brick.
44 The Care of the Consumptive. J. W. Kime.
45 Raynaud's Disease, with Report of a Case. M. E. Silver.
46 Baby Feeding. J. G. Biller.

Archives of Ophthalmology (New Rochelle, N. Y.), September.

47 Determination of the Presumable Refraction of the Eye, With and Without Its Crystalline Lens. Edmund Landolt.
48 Transplantation of a Large Wolff Graft, Forming a New Lining of the Orbit, and Permitting the Wearing of an Artificial Eye. Charles H. May.
49 Ocular Affections in Cases of Xeroderma Pigmentosum (Epibulbar Carcinoma) in a Boy of Six Years. R. Greeff.
50 *Thrombosis of the Central Artery of the Retina, Presenting the Picture of So-called Embolism, With the Pathological Examination. Leonore Welt.
51 *On Embolism of the Central Artery of the Retina. C. Schweigger.
52 *On Bell's Phenomenon. Wilibald A. Nagel.
53 The Use of a Glass Lachrymal Pipette. W. H. Bates.
54 Perforating Wound of Upper Lid and Eyeball. Reduction of Prolapsed Iris; Recovery. S. J. McLennan.
55 Periscopic Lenses. A. S. Percival.

Occidental Medical Times (San Francisco), September.

56 Hypochondriasis and Hypochondriacal Ideas—A Case of Self-mutilation. A. W. Hoisholt.
57 Suggestions Bearing upon the Diagnosis and Treatment of Fractures at the Lower End of the Humerus. Thos. W. Huntington.
58 Technic of General Anesthesia. E. M. Bixbey.
59 The Surgical Treatment of Tuberculosis of the Glands of the Neck. S. J. Hunkin.

American Journal of Obstetrics (N. Y.), September.

60 *The Complications and Degenerations of Fibroid Tumors of the Uterus as Bearing upon the Treatment of These Growths. Charles P. Noble.
61 *A Contribution to Experimental Uretero-cystostomy. Clarence A. Smith.
62 *The Conservation or Preservation of the Ovaries and Functionating Uterine Tissue in the Operation of Hysteromyomectomy. Henry D. Beyea.
63 Partial Hysterectomy (?) for Puerperal Sepsis. Hiram N. Vineberg.
64 A Case of Congenital Malformation Leading to Error in Diagnosis of Tubercular Peritonitis. William F. Metcalf.
65 A Rare Case of Exfoliative Vaginitis. George Gellhorn.
66 Hyperplastic Glandular Endometritis. Palmer Findley.

Medical Examiner and Practitioner (N. Y.), September.

67 Address of Chairman of the Medical Section, National Fraternal Congress. T. Milliman.
68 The Medical Examiner in Fraternal Insurance. Moreau R. Brown.
69 Tuberculosis in Relation to Life Insurance. C. A. McCollum.
70 How May We Reduce the Death-Rate from Cancer and Consumption? Emma Cook.
71 Heredity and Its Value as a Factor in Life Insurance. F. A. Smith.
72 The Modern Medical Director. James T. Craig.
73 Location in Its Bearing upon Life Insurance. Ira W. Porter.

American Gynecological and Obstetrical Journal (N.Y.), September.

74 Obstructive Diseases of the Lower Bowel. Henry O. Marcy.
75 *Hydatids of the Uterus. Frederick G. Smith.
76 A Case of Deciduoma Malignum. William McDonald.
77 Five Gynecological Cases of Special Interest. Edgar D. Smith.
78 *Operation for Radical Cure of Cystocele in Woman by Temporary Suspension of Bladder. J. B. Taulbee.
79 Puerperal Fever. I. A. McSwain.
80 *Infection as an Etiologic Factor in Abortion. Miles F. Porter.
81 Symphysiotomy on a Generally Contracted Pelvis. M. Ravin.
82 Case of Multiple Fibroids of the Uterus and Broad Ligament Cyst Filled with Altered Blood; Removed by Kelly's Method; Recovery. Lapthorn Smith.

Oklahoma Medical Journal (Guthrie), September.

83 Ataxic Paraplegia. John W. Dukf.
84 Tuberculosis of Bone. J. Garland Sherrill.

Western Medical Review (Lincoln, Neb.), September 16.

85 *Round Ulcer of the Stomach. N. S. Davis, Jr.
86 Pelvic Injuries. R. Harvey Reed.
87 *Some Recent Conclusions in Regard to Appendicitis. Byron B. Davis.
88 *Hypospadias. C. H. Mayo.
89 A Case of Abscess of the kidney. W. O. Wisner.

Woman's Medical Journal (Toledo, Ohio), July.

90 For the Good of the Order. Azuba D. King.
91 Prophylaxis in Obstetrics. Agnes Eichelberger.
92 Placenta Previa. Sophie H. Scott.
93 Women Physicians in Care of the State Insane. Mary A. Coveny.

Medical and Surgical Monitor (Indianapolis), September 16.

94 Treatment of Acute, Anterior Urethritis. W. A. Hackett.
95 *The Use of Sulphide of Calcium as a Remedy, including the Opinions of Drs. H. A. Hare, Davis M. R. Culbreth and George F. Butler, Expressed to the Writer. Samuel E. Earp.
96 Health in the State of Indiana During August, and Statement in Regard to the Deaths in that Month. John N. Hurty.

Lcuisville Monthly Journal of Medicine and Surgery, October.

97 *The Ophthalmoscopic Diagnosis of Bright's Disease. Dudley S. Reynolds.
98 A Gunshot Wound of the Right Lung with Complications. A. M. Morrison.
99 Hypno-magnetism and Suggestive Therapeutics. J. Glahn.
100 Vaccination. A. D. Price.
101 Ununited Fractures. J. Lively Johnson.
102 The Early Operation for Appendicitis from a Pathologic Standpoint. J. G. Carpenter.
103 The Symptoms and Treatment of Diarrheas of Children. C. L. Venable.
104 Chloretone. Walter P. Ellis.

Maryland Medical Journal (Baltimore), October.

105 *The Significance of Apex Pneumonia. Eugene F. Cordell.
106 Pregnancy at the Age of Eleven Years, Terminating in Natural Delivery. L. M. Allen.

Toledo Medical and Surgical Reporter, October.

107 Multiple Gynecic Operations; Report of a Case. William H. Fisher.
108 A Postmortem Recollection. J. T. Woods.
109 Lysol. J. D. Ely.
110 Rectal Feeding. Robert Peter.

Dominion Medical Monthly (Toronto), September.

111 *Presidential Address, Canadian Medical Association. H. H. Chown.
112 Address, Executive Health Officers' Association of Ontario. W. T. Connell.
113 Practical Solution of the Question of Dealing with the Consumptive Poor. E. J. Barrick.

Southern Illinois Journal of Medicine and Surgery (Metropolis), September.

114 History of the Massac County Medical Society. C. E. Trovillion.
115 The Differential Diagnostic Points in Variola and Varicella. A. C. Ragsdale.

Therapeutic Gazette (Detroit, Mich.), September 15.

116 Lessons of a Decade in Hydrotherapy. Simon Baruch.
117 A Case of Carbolic Acid Poisoning. Walter R. Griess.
118 *The Cure of Enuresis. Philip F. Barbour.
119 *Use of Hydrotherapy in Neurasthenia and Other Nervous Affections. Wharton Sinkler.
120 Serous Extravasation Cyst of Both Sides of the Nasal Septum. Nathan G. Ward.
121 The Diagnosis and Treatment of Nasopharyngeal Syphilis. P. S. Donnellan.

Clinical Review (Chicago), October.

122 The General Toxemias and Their Treatment. L. L. Skelton.
123 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
124 Cases of Insanity. Daniel R. Brower.

Medical Sentinel (Portland, Ore.), September.

125 *Hydraulic Pressure—A Means Used to Open the Common Gall Duct, Which Remained Closed, or Reclosed After the Removal of Impacted Stones. L. P. McCalla.
126 Some Facts Bearing on the Question of Leprous Japanese and Salmon Canning. Albert S. Ashmead.

Canadian Practitioner and Review (Toronto), September.

127 On the Importance of an Early Recognition of Locomotor Ataxia—Do the Eye Symptoms Assist Us? J. T. Duncan.
128 Syphilitic Fever Occurring as a Complication in a Maternity Case. Helen MacMurchy.
129 Hernia Ten Years After Abdominal Section. A. Gibson.

Detroit Medical Journal, September.

130 *Tuberculosis. Heneage Gibbes.
131 Recent Epoch Making in Medicine. Samuel Bell.

Mississippi Medical Record (Vicksburg), October.

132 Venereal Diseases. R. Franklin Nimocks.
133 Clinical Lecture. (Ureteral Catheterization, etc.) Howard Kelly.
134 Thrush. C. R. Henderson.

Southern California Practitioner (Los Angeles), September.

135 Refraction Errors in Their Medical Relation. George J. Lund.
136 Endometritis. F. R. Burnham.

137 Can Injuries to the Parturient Canal Be Avoided During Normal Labor? If Unavoidable, What Is the Duty of the Obstetrician? Marie B. Werner.
138 Pelvimetry. Melvin L. Moore.
139 Darwinism and the Doctor. Cephas L. Bard.

Alabama Medical Journal (Birmingham), September.

140 *Some Sociologic Problems in Relation to Marriage, Crime, Insanity, etc. R. R. Kime.
141 The Treatment of Scarlatina. W. H. Wilder.
142 Maternal Impressions. R. C. Bankston.
143 *A Plea for the Broader Treatment of Epilepsy. William P. Spratling.

Southern Practitioner (Nashville, Tenn.), October.

144 Gunshot Wounds of the Stomach. Richard Douglas.
145 Nerve Reflexes Due to Abdominal and Pelvic Pathology. W. A. Bryan.
146 Practical Ideas on the Treatment of Pneumonia, Pericarditis, and Tubercular Pleurisy. Edmond J. Melville.

Charlotte Medical Journal, September.

147 *Pulmonary Tuberculosis and the Trades. C. P. Ambler.
148 Rheumatism and the Salicylates. F. R. Millard.
149 The Treatment of Some Chronic Conditions of the Intestinal Tract. David E. Bowman.
150 The Care of Breasts in Nursing Mothers. George Barksdale.
151 American Therapeutic Contribution to Medicine. B. T. Whitmore.

Southern Medical Journal (La Grange, N. C.), September.

152 Treatment of Infantile Eczema. J. W. P. Smithwick.
153 Some Notes on the Medical Treatment of Cancer. H. B. Esmond.
154 A Therapeutic Study of the Epsom Water of Vade Mecum Spring. J. W. P. Smithwick.

Nashville Journal of Medicine and Surgery, September.

155 Report of Surgical Operations in the Private Surgical Infirmary of Drs. C. S. and Samuel S. Briggs During Its Tenth Season, from Sept. 10, 1900, to Aug. 1, 1901. (Concluded.) Samuel S. Briggs.

AMERICAN.

1. **Spinal Myeloma.**—After reporting a case operated upon by resection of the first four dorsal laminæ and removal of the growth, with microscopic examination of the same, Thomas goes at length into the literature of the subject. The specially interesting feature in his case was the very complete relief of the paraplegia by the operation, the presence also of disassociation of the sensations of temperature, pain and touch such as in syringomyelia in a case of pressure upon the cord from without, as well as the variability in the height of the disturbance of sensation as seen at different examinations and the apparent improvement in the condition of the bones under the use of bone marrow and Coley's toxin treatment. The patient recovered enough to go out and tend to his business, but within a few months he had a return of the pain and swelling in the region of the 6th, 7th and 11th ribs, tenderness to pressure, with rigid spine and difficulty in moving. The further progress of the case is not reported. The reflexes were normal.

4. **Infantile Scurvy.**—Two cases of this condition are briefly reported by Pierson, who uses them as a text for his discussion of the disease. The etiology is doubtful. The most that can be said is that it follows the prolonged use of some unsuitable diet. It generally occurs in children under 2 years, usually from 6 to 15 months of age, and as far as the pathology is concerned from the general practitioner's standpoint, it is simply a hemorrhage with which we have to deal. The earliest and most common symptoms are swelling of the lower end of the diaphysis of the femur; that is an important point in the diagnosis from rhachitis or rheumatism. The swelling is neither hot nor red, as in rheumatism. The diaphysis is tender, which is not the case in rhachitis. The rest of the pathology of the disease consists in anemia, which is probably secondary, due to hemorrhage, and ulcerative stomatitis. Swelling of the gums is not usual in his experience and will not appear with prompt treatment. Hemorrhage may occur from bowels, nose, into the skin or into any of the internal organs. The first symptom noticed in the child is pain, terror of being touched, pain first in the legs, then the arms and back, next swellings appear, but there is no fever. The diagnosis should be easy, the most common error is to call the case rheumatism or to attribute it to a fall or injury. In rhachitis the swelling is epiphyseal, chronic and painless, and there will be a well-marked rosary when it is well developed as in scurvy. Stomatitis and hemorrhages do not occur in rhachitis. Pott's disease is rare under 2 years, and has no swelling of the extremities. Acute anterior poliomyelitis has a febrile onset with later paralysis. Purpura has no swelling of the extremities or stomatitis. Syphilis is more chronic and the swellings less tender. When anyone is called to a child lying with legs drawn up, dreading to be touched, with swelling of the lower end of the diaphyses of the long bones and where there is anemia, with swollen gums, there is no other diagnosis possible than scorbutus. The treatment is simple. Modified, uncooked milk with orange or lemon juice should be given, one-half to one lemon or orange being used daily with fresh beef juice. He usually gives iron, etc., for the debility and anemia. In severe cases the child must be kept quiet on a frame, but he has not had to resort to this.

6.—See abstract in The Journal of October 5, p. 933.

7. **Teaching of Anatomy of the Nervous System.**—Mettler criticises the former methods of teaching nervous anatomy and suggests biologic methods, showing the evolution of the organs from the lower types and uses the spinal cord as an illustration. He shows how this is evolved from the ganglion system of the invertebrate, and that certain portions recognized as belonging to it, are so only by grace of position, but really are parts of the cerebral anatomy. The importance of putting the function and development of the parts before their mere anatomic location enables the student to grasp more intelligently the relations and conditions than would otherwise be the case.

8. **Pre-Medical Education.**—Coulter describes the pre-medical course adopted in Purdue University, which was devised to furnish a broad and liberal education and give special and extensive training in subjects which underlie primary professional studies, and, by this co-relation of work, to shorten the time required to obtain a university and medical education. The needs of the student beginning a medical course are considered, but he thinks if the professional school and college can make satisfactory allotment of courses common to both, that time, money and strength would be saved.

9.—See abstract in The Journal of July 13, p. 138.

10. **Pistol-Shot Wounds.**—The characteristics of wounds from pistol bullets are described by Curtin, who speaks of the importance of knowing the distance at which the pistol was held from the victim, which can be most accurately determined in most instances. When the pistol is held tightly against the skin, the entrance wound is large as compared to the caliber of the pistol, the edges of the wound are burned and lacerated and there is no surrounding area of blackening, burning or powder stain. If only one or two inches away, the wound is small, but there is a blackened and scorched area around it and the hair is burned. The farther away the pistol is held, up to a certain limit, the more distinct are the imbedded powder stains. The burning of the skin is present up to a range of six inches; it is variable, however, from three to six inches. The presence of powder grains shows that the range has not exceeded five feet, while smoke stains are constant up to a distance of eight inches. If the pistol has been held at some distance, say ten or twenty feet, the entrance wound is small or rounded. There is no blackening around it or any mark of powder stain. The caliber, the length of the barrel, the amount of powder used and its age are all to be considered. In head cases there is very little bleeding at the entrance wound; oozing of brain matter is present in 50 per cent., but both these may be lacking. One should notice the shape of the entrance wound, whether it is distinctly rounded or whether tunneled or grooved. This is important as determining the relative position of the parties. The entrance wound is smaller than the caliber of the bullet, except when the pistol has been fired in direct contact. This is due to the elasticity of the skin. He has rarely seen an exit wound of pistol-shot wounds

of the head. A 22-caliber bullet fractures the skull, it may or may not lacerate the meninges, and rarely enters the cranial cavity. The 32-caliber penetrates the brain, and if it passes through the squamous portion of the temporal bone, it usually produces a comminuted fracture of the bone opposite. It can be best detected by careful external palpation, and sometimes the extraction of the bullet and bone fragments are effected. The bullets of from 38 to 42-caliber penetrate, and in some cases perforate. Accurate anatomic description of the wound of entrance and exit should be made. It is important in giving legal testimony to know the caliber of the bullet. This is determined by accurately weighing the leaden mass and comparing it with standard weights of the different calibers. The caliber sought for will be that one which corresponds with the weight, exceeding by a few grains the weight of the leaden mass. The pistol should always be examined to see if it had recently been discharged. If so the barrel is lined with a black deposit of sulphid of potassium and charcoal, which, when diluted with water, gives a strong alkaline reaction, has the odor of sulphureted hydrogen and a deep brown precipitate forms on the addition of acetate of lead. If the pistol has not been fired for hours or days, this black precipitate changes from the sulphid to the sulphate of potassium, which gives a neutral reaction in a watery solution, and a white precipitate on the addition of acetate of lead. If the time which has elapsed amounts to weeks or months, traces of the oxid of iron as well as of the sulphate of iron will be found. He calls attention to the wounds made by blank cartilages and it is well to remember that they have been known to penetrate to the depth of two inches. From their action in carrying germs and the frequency of tetanus, attention to their removal and treatment of the wound is imperative.

11. **Strangulated Hernia.**—The condition of strangulated hernia, as considered by Pfister, is entirely within the scope of those conditions which the general practitioner can treat, and no more than a fair modern surgical education is required. No rarely-used instruments are needed, and it is so frequent that every physician should inform himself on the technique of the operation, and, with the simple procedures, have successful results in the vast majority of cases. He goes at length into the description of the operation and says in conclusion that there are many conditions, such as advanced age, where a well-adapted truss will suffice, and therefore not all cases of hernia, aside from severe strangulation, should be operated upon.

12. **Tuberculosis.**—The details of the sanatorium treatment of tuberculosis are given by Richer, who lays stress on the importance of rest, including under this term not only the recumbent position, but quiet and the use of bandages to insure long rest to any injured parts, outdoor life, over-feeding, of which he gives the details, and general medical supervision. This last is the most important. He finds that strychnia in 1/30 gr. doses is very useful and creosote is the most reliable internal antiseptic, except where contraindicated by recent hemoptysis. Cough is easily controlled and night sweats disappear with increased nutrition.

16. **Epilepsy and Dyspepsia.**—The close relation between epilepsy and dyspepsia are insisted upon by Aaron, who believes that gastro-intestinal irritation seems to be the cause to which many cases of epilepsy are traceable. The digestive troubles are frequently latent. It is to be recommended in all cases of epilepsy and suspected stomach disorders, that an analysis of the stomach contents and urine should be made. The examination of the patient is not complete unless the digestive organs are also examined.

17. **Social Aspects of Dermatology.**—The subjects considered in Morris' fourth lecture are the pus bacteria of the skin with their consequences, impetigo contagiosa, boils, carbuncles, etc.; anthrax, sycosis, premature grayness, alopecia, acne, vaccination rashes, and tropical parasites; chigos, guinea worm, elephantiasis, etc. Morris believes in the hygiene of the barber shop. He points out that nearly all hair dyes are injurious.

19. **Climate in Nervous Diseases.**—Pearce finds that neurasthenia, chorea and other diseases are badly affected by high altitudes and high winds. He thinks therapeutic climatic results are dependent upon the states of atmospheric pressure and consequent nutritional modifications. High altitudes favor circulation in the periphery and assist nutrition; the trophic functions may advance too rapidly with too great ascents. The neurasthenic, therefore, who must appropriate nutriment slowly on account of the weakened central nervous system, is not suited to high altitudes. Insomnia is benefited by lower altitudes, as are also chorea, hysteria and most of the functional diseases. Melancholia and depression are helped by high winds with moderate heat to aid in general bodily metabolism. The organic diseases dependent on the central or peripheral lesions, perverted function, as pain and sluggish circulation, will be helped by altitude. A greater altitude is desirable for diseases of the central nervous system, and a lesser altitude the desideratum in the cases of peripheral diseases, as in neuritis and vasomotor palsies, exophthalmic goiter, etc.

21. **Acute Amygdalitis.**—The conclusions of Floersheim's article are: 1. The tincture of iodin is the most powerful antiphlogistic in inflammations of the throat. 2. Its action is very rapid, relief being often experienced within five minutes. 3. It has relieved the intense inflammation completely when all other throat remedies had absolutely failed to benefit. 4. Its use in sixty-eight cases of acute amygdalitis has been followed by marked benefit in every case. 5. The method of application is simple.

23. **Cancer of the Gall-Bladder.**—According to Manton very little advance has been made in our ability to distinguish the morbid conditions in gall-bladder and bile duct. Cancer of the gall-bladder is not nearly so uncommon as generally supposed, and in many cases where adjoining organs have become secondarily affected, the secondary growth has been credited as primary. The etiology is the most important question, however, and we know at present but one incontestable factor, viz., gallstones, hence the value of early treatment of this condition. Manton reports a case of villous cancer of the gall-bladder with secondary invasion of the adjoining structures, which was operated upon, but died shortly after the operation. The interesting points of the case are the long-continued gastric disorder and secondary infection long before symptoms pointing to the original condition were developed, the sudden appearance of the gall-bladder tumor and the extraordinary size of the stones. When we consider the frequency of gallstones and the fact that they may be promotive of malignancy, their importance must not be overlooked. He also reports a case of cancer of the common bile duct and secondary infection of the common gall-bladder, illustrating the peculiarities of the case. His conclusions are: Although primary cancer of the gall-bladder and bile ducts is rare, recent investigations go to show that it is not so uncommon as generally supposed. As a rule, the onset of the condition is insidious; there are no symptoms developed at an early stage of the disease in either locality, with which we are at present acquainted, which will permit of a positive diagnosis being made. When this is possible the disease has already advanced beyond the helpful intervention of surgery. Fever, having been observed in so many other conditions of the liver and adjacent organs, it is of little or no value as an aid to diagnosis. This same may be said of blood examination. Emaciation is frequently absent, and the patient may remain in apparently good health until toward the termination of the disease. The absence of malignant disease elsewhere has no diagnostic significance. The only symptom which may perhaps prove of service in forming a provisional diagnosis of gall-bladder and bile duct malignancy seems to be of gastric origin. In two of the cases reported, and in many cases found recorded in the literature of the subject, disorder of the stomach preceded the local symptoms of cancer. Further investigation along this line is desirable, and all protracted disorders of the stomach which can not be positively referred to other causes should be

viewed with suspicion as a possible indication of beginning malignance in the gall-bladder or bile ducts.

24.—See abstract in THE JOURNAL, xxxvi, p. 1416.

25. **Cleft Palate.**—The importance of the palate rather than the tongue in the production of speech is insisted upon by Makuen, who shows that the function of the former is twofold, and in all voice sounds in which it does not share in the formation of the stop position, it serves as an obturator between the nose and the pharynx, completing the partition between these two cavities, and compelling the outgoing breath to pass through the required particular stop position required for sound. Thus in labials, labiodentals and linguodentals, the sounding breath must pass through the anterior stop position—that is the place where the anterior stop position is made by impeding the moving column of breath in producing the sound; the middle stop position is used in certain articulations and the sound breath must pass through this constricted aperture. The function of the palate is to prevent its passing upward through the nostrils. In the use of the posterior stop position, which is formed by the junction of the velum palati and the dorsum of the tongue, the soft palate serves a double purpose. Its free border rises against the posterior pharyngeal wall, closing the avenue to the nostrils, and its anterior surface, acting in conjunction with the tongue, forms the stop position for the sound. The palate may be defective by perforation of the cleft or paralysis of the muscle. Perforation must be posterior to the stop position in use, to affect speech, though its importance largely depends upon the size. The characteristic speech of cleft palate is well known and the physiology is explainable by the points already elucidated in regard to stop positions. He calls attention to the importance of treating defects of speech early, and if cleft palate is only operated upon after the speech has been acquired the habit will be retained to a greater or less extent, hence the importance of training and education in such cases.

27. **Yellow Fever.**—Waldauer reports experiences which point out to him the probability of transmission of yellow fever by fomites, and, therefore, insists on the importance of continuing the precautions that have formerly been used as regards the transmission of this disease.

30. **Anesthesia and Analgesia.**—The different actions of general anesthetics are here discussed. Local anesthesia is passed by as being rather analgesic than anesthetic. What we understand by anesthesia is producing general intoxication of the body and suspension of consciousness, leaving untouched the vital reflexes of organic life. It is rapid in induction and recovery, and affecting to the least possible degree the tissue, life and function outside of the desired period of suspended sensibility. Search is never ending for the best means of producing such conditions. Magill goes into the physiology of anesthetics to some extent, showing that toxic action increases in the direct ratio to concentration of carbon in the radical of the agent, as does also the rapidity with which anesthesia can be induced. The addition of oxygen to the hydrocarbon molecule probably renders the anesthesia no more toxic, but slower to be induced. The compound formed by a halogen with the organic radical shows greatly increased toxicity, and this toxic factor multiplies directly with the number of elements of the halogen introduced into the molecule, and likewise directly with the relative density or weight of the halogen in question. By reason of the hyperchlorination of its molecule, chloroform is justly proclaimed more toxic than its rival, but an offset compensation is constituted by its correspondingly increased anesthetic energy. The substitution of bromin instead of chlorin in equal numbers of atoms, determines a greater toxicity for the resultant bromid. The halogens of greater atomic weight should increase the toxicity of the molecule so as to render them dangerous in even the minutest doses. The use, however, of monobromid of ethyl is harmless for short administration, but must not be continued; the author gives particular points in regard to the use of this drug. He finds that there is a growing consensus of belief that if chloroform could be relieved from the accidents of primary syncope it would be the best anesthetic. To avoid the point of danger, the cerebral cortex excitement, the English surgeons are employing nitrous oxid to induce the anesthesia. Drs. Hartman and Bourbon and the writer suggested ethyl bromid, and have extensively used this remarkable agent of short narcosis since 1892. The advantages of this method of beginning the anesthesia with ethyl bromid and continuing with chloroform are insisted upon, the importance of perfectly pure ethyl bromid being specially emphasized. For prolongation of unconsciousness, the narcosis induced by this bromid is easily and safely continued with chloroform in very small quantities.

33. **Adrenal Solution.**—Cohen reports a case in which the use of adrenal extract given for asthma seemed to cause excessive edema of the uvula and palate and adjoining regions, inducing also slight edema of the epiglottis. The patient had sprayed the pharynx and nasopharynx vigorously for a prolonged period with suprarenal-chloretone solution. The uvula and palate were scarified, the patient was put at rest, had a drastic purge given, and was advised to use a gargle with lukewarm water aromatized with toilet vinegar. In about an hour the edema began to subside, breathing became easier, and still later the patient became quite comfortable. Traces of edema of the uvula were visible for three or four days. The preparation used was not the one now usually available, but the extract of suprarenal substance with chloretone, which was previously placed upon the market. He has used the adrenal chlorid solution as now prepared with much satisfaction and without any ill effects.

35.—See abstract in THE JOURNAL of October 12, ¶59, p. 1005.

36.—See abstract in THE JOURNAL of September 28, p. 850.

50. **Thrombosis of Central Artery of Retina.**—From a study of a case and the literature, Welt finds that the ophthalmoscopic picture of so-called embolism of the central artery of the retina may be produced by thrombosis of the artery, and that this may take place from the following: 1, endoarteritic changes as in von Michel's case; 2, as a symptom of thrombosis of an entire arterial tract as in Siegrist's case; 3, independently of endarteritic changes, when the blood pressure is reduced and there is a tendency to coagulation of the blood and fatty degeneration of the intima, as in his own case.

51. **Embolism of the Central Artery of the Retina.**—Schweigger questions the frequency of embolism of the central artery, doubt as to which was expressed by him more than thirty years ago, but only in recent years has the anatomic basis been given for these cases of sudden blindness by the demonstration of endarteritis with narrowing of the lumen, which accompanies various forms of retinal diseases. The view that sudden blindness with cloudiness of the disc and retina depends upon embolism arose only because the appearance that was previously termed infiltration, later was termed embolism. Graefe's case teaches that embolism is not immediately followed by cloudiness. On the contrary, the narrowing of the retinal arteries from endarteritis must needs cause slowing of the blood count, which may produce infiltration. This peculiar cloudiness of the retina may develop without circulatory disturbance, as he shows by a case of his own, which he thinks was probably caused by a shot striking the optic nerve.

52. **Bell's Phenomenon.**—This phenomenon, discovered by Sir Charles Bell in 1823, consists in associated movement of the eyeball, cornea turning up and in and then up and out, where it remains while the lids are held closed. It is not a pathologic phenomenon, though it was originally held as such from experience in cases of facial paralysis. The cause of it has not been fully cleared up. Nagel has investigated the matter himself and gives the opinion that the phenomenon is really a normal reflex. Whether we must not concede a simultaneous innervation of the orbicularis and the elevators of the eye dependent upon cortical associations, as has been assumed by Mendel and Negro, is not definitely decided. He thinks it is not impossible that Bell's movement in ordinary closure of the

lids is a reflex, depending upon the closure, but in spasmodically intentional closure of the lids the excitation may reach some higher point of the central nervous system, possibly the cortex.

60. **Uterine Fibroids.**—Noble gives an analysis of 218 cases of fibroids tabulating their complications, which are numerous; some of them fatal, some threatening the life of the patient and some leading to permanent invalidism. He has not seen any similar tables of complications to offer a basis of comparison, therefore he is not sure whether his experience is the same as that of others. Accounts are given of some notable cases; his experience does not support the doctrine that fibroids disappear with the menopause, and he thinks this is not to be expected. In the tables no mention is made of adhesions which were present in numerous cases. The most characteristic symptom of patients suffering from these tumors is anemia, which in some exists in the highest degree. In one case in which hysterectomy was performed the anemia was high—hemoglobin 10 per cent. and red cells 2,325,000. The results were favorable, and, comparing the mortality of fibroids and complications—33 per cent.—with the mortality of the operation—with less than 10 per cent.—he thinks the results very much in favor of operation. The proper treatment of fibroid tumors is their early removal; there may be exceptions to the rule, and each case must be decided upon its own merits. According to his own experience, small multinodular, subperitoneal fibroids in women over 40 are less apt to grow and cause trouble; submucous, and intramural growths in younger women are more apt to develop and need operation. He has met with but few fibroids that do not produce symptoms. Therefore he thinks the percentage of cases is small in which operation is not indicated.

61. **Ureterocystotomy.**—Smith has experimented with the lesions of the urinary bladder and the ureters under tension as would be the case from the resection of a ureter with a loss of length. He has experimented on the cadaver and living dogs. The oblique operation referred to below is as follows: "An incision of an inch long is made, in an antero-posterior direction, through the bladder peritoneum; this is dissected to each side, exposing the underlying musculosa. At the distal end an opening of sufficient size to receive the ureter is made into the bladder. A fine silk ligature is now passed through the muscular wall of the bladder, from one-quarter to three-eighths of an inch above the opening; this also grasps the ureteral wall, penetrating the lumen, at such a distance from the end of the ureter as to permit it later to enter the bladder. Before tying this a second suture is passed in a similar manner just above the bladder opening. After these are tied the end of the ureter is inserted into the bladder, and two additional sutures are applied in a like manner at the edge of the bladder opening, firmly grasping the bladder wall and penetrating the ureteral lumen. The reflected peritoneum is now drawn over the ureter by interrupted silk sutures, placing the ureteral sutures extraperitoneal." The conclusions which he reaches are as follows: "1. It is practicable to anastomose the ureter to the bladder under tension, if the two are securely held in apposition till firm adhesions form. 2. This relation can be attained by the above-described method of oblique implantation. 3. An additional length of one-half to one inch can be safely obtained by traction on the ureter. 4. The presence of a ligature in the lumen of the ureter is not injurious, because Nature conceals it behind new epithelium."

62. **Conservation of Ovaries.**—Beyea reports a case in which conservative operation was performed, leaving the lower portion of the uterus, perhaps 1 or 2 centimeters, in the patient, who had been suffering from large myoma; he also notices other cases in the literature. He suggested the following questions as regards the practicability of this conservative hysteromyomectomy: 1. Of what value are ovulation and menstruation when the possibility of conception is destroyed? He believes that this function of the ovaries is a very important matter whether the uterus exists or not. 2. In what frequency will pathologic changes develop if the ovaries are left in position? He has not seen much to indicate their probability and considers they will be extremely rare. Secondary atrophic changes may take place, but he thinks will probably not occur. In the four cases reported by Abel there was a gradual atrophy or diminution in size, but there were no symptoms of menopause, and the molimina menstrualia were normal. There is, he thinks, no sufficient technical reason why the operation should not be performed nor any cause why it will be more dangerous than an early hysteromyomectomy.

75. **Uterine Hydatids.**—A case of this rare condition is reported by Smith, who defines it as a pathologic condition of the chorion characterized by the existence in the uterine cavity of a large number of translucent vesicles, containing a clear limpid liquid, which closely resembles the liquor amnii. A peculiarity is its proneness to penetrate the uterine walls. The causes are noticed; it begins usually in the multiparæ at the close of the child-bearing period, and is characterized by symptoms indicating the mechanical pressure of the growth, hemorrhage, etc. The prognosis is determined by the frequency and violence of the attending hemorrhage. Immediate evacuation of the uterine contents is always advisable if the diagnosis is established before the appearance of labor.

78. **Cystocele.**—The operation here described by Taulbee is that of dissecting or stripping of the perineum from the bladder by a vaginal operation, packing with gauze, then opening the abdomen and suspending the bladder to the abdominal wall by sutures passing into the muscular tissue but avoiding the mucosa. The difficult feature of the operation consists in the properly divesting the bladder of its peritoneal covering and reapproximation of the same, properly inserting the ligatures and denuding the area which it is desired should adhere to the pelvic or abdominal fascia. Care should be taken to avoid all arteries and veins and not to injure the mucous or submucous layers of the bladder. The ligatures must be so adjusted that tension will be uniform and the denuded surface hold the peritoneum to the abdominal wall. The ureters must not be disturbed. The point of entrance and exit of the needle must conform to the size of the distended bladder, which will vary in different subjects. In another operation which he promises to report in the future the vaginal vault was not opened, the uterus and bladder were suspended through the abdominal opening and drainage carried on through this wound; the result, however, was not so satisfactory. He claims priority in his operation, as he has not found anything in regard to it in the literature.

80. **Infection in Abortion.**—From a review of the literature Porter holds the evidence warrants the following conclusions: "1. That acute infections of the genitalia frequently cause abortion. 2. That many attempts to produce abortion criminally, succeed only because of the infection introduced in the attempt. 3. That habitual abortion is usually the result of chronic infection. 4. That, other reasons aside, examinations of pregnant women should be conducted with careful attention to asepsis for fear of inducing abortion. 5. That aborting women should be regarded by the physician as infected women and that he should as carefully disinfect himself after administering to them as he would after attending cases of puerperal infection, etc., before undertaking other obstetric or surgical cases."

85. **Gastric Ulcer.**—Davis describes the symptoms of gastric ulcer, calling attention to the necessity of examination of the stomach contents, and the recognized need of greater care in studying the urine in these cases, paying attention to the reduced acidity and well-marked alkalinity wave after meals. Also the blood examination; the rare cases where there is a hyperchlorhydria may create difficulties, and, when the tumor can not be felt, a diagnosis may be impossible. He goes into the dietetic and medicinal treatment of these cases, making the rest and milk diet the essentials; a guarded prognosis should always be given. In conclusion he suggests the need of laboratories and the advisability of medical societies organizing and supporting these, so that their advantages can be obtained by the practitioner in general.

87. **Appendicitis.**—Davis ends his paper as follows: "In all cases of chronic appendicitis and those who have had one or more severe attacks, or two or more light attacks, an operation is indicated. 2. In simple cases of appendiceal colic without severe pain, no vomiting, no fever and no rise of pulse rate, immediate operation is not imperative, though the appendix should be removed at the earliest convenience after the attack is over. 3. In acute attacks seen during the first forty-eight hours, accompanied by persistent vomiting, severe pain and rigidity of the right rectus abdominis, immediate operation should be done whether there be much fever or rise of pulse rate or not. 4. In patients seen after the third day of the attack (*a*), if distinctly convalescent, operation may be postponed until the acute symptoms fully subside; (*b*), if not distinctly convalescent, but with an amelioration of all the acute symptoms, immediate operation should be done; the operation may be delayed if the patient can be closely watched and is in suitable surroundings for an immediate operation should there be an exacerbation of the symptoms; (*c*), in patients becoming progressively worse, but not yet moribund or nearly so, operation done at once will save more patients than can be saved by other means; (*d*), moribund patients should be allowed to die without operation."

88.—This article appeared in THE JOURNAL, xxxvi, p. 1157.

95. **Sulphid of Calcium.**—Earp finds that this is a valuable remedy in scrofulous cases and in the treatment of boils, felons and acne, and is an adjuvant to mercury and iodid of potassium in specific cases. He quotes letters from Dr. H. A. Hare, who endorses the remedy, and thinks it does good where there is a tendency to the development of pustular conditions of the skin; he also quotes from Dr. D. M. R. Culbreth, who speaks highly of it in scrofulous or glandular conditions when used with discretion and judgment. It should not be used too generally. He thinks it a valuable agent in knowing hands. Dr. G. F. Butler has had but little personal experience, but is convinced that it is an efficient remedy in the class of cases in which it has been recommended by Earp.

97.—See abstract in THE JOURNAL, xxxvi, p. 1726.

105. **Apex Pneumonia.**—From a study of cases, including the statistics of Pye Smith and others, Cordell concludes that: "Acute lobar pneumonia affecting the apex is about one-third as frequent as that affecting the base, and of the two apices, the right is affected about three times as often as the left. Involvement of one apex and the opposite base is very rare, and that of the two apices still rarer. Apex pneumonia is not rare in early life, and the relative involvement of the upper and lower lobe corresponds with that in the adult. The general mortality of the apex and basal forms is about the same. Involvement of one apex and the other base does not appear to be a fatal form of double pneumonia, apart from complications. The mortality of uncomplicated apical disease in the child is almost nil. Delirium is not an infrequent prognostic symptom at any age. Intemperance and hyperpyrexia do not increase the relative mortality at the apex. Pericarditis is a fatal complication, and Bright's disease and bronchitis render the prognosis much graver. Delirium is not a more frequent or marked symptom in apex cases in the adult, and seems to occur more often in cases with complications than in the basal form. Intemperance, which is the chief cause of this symptom, does not seem to increase its relative frequency at the apex. There is no positive evidence that delirium is more frequent or prominent in the young with apical pneumonia. Pericarditis is relatively more frequent in apex cases. The same appears to be the case with otitis media. It is not evident in the case of icterus, hyperpyrexia, endocarditis, meningitis, pleurisy, diabetes, or empyema. Gangrene is doubtful. There is no reason (other than site) why apex pneumonia in the adult should be more readily overlooked. Phthisis is rare in connection with acute lobar pneumonia, and the apex form involves no tendency to eventuate in it. Cases of apex pneumonia, even in the adult, sometimes assume the mildest symptomatology."

111.—See abstract in THE JOURNAL of September 14, p. 711.

118. **Enuresis.**—Barbour recommends the use of boracic acid in enuresis. He was led to employ it from his desire to render the urine less alkaline and more antiseptic. Later he added salol to the boric acid and the results have been most gratifying, so that it has become his routine treatment for enuresis. Abnormally contracted bladder and conditions like malnutrition, etc., can not be thus benefited. He does not give the dosage in which he has employed the drugs in these cases.

119. **Hydrotherapy in Neurasthenia.**—The method here advocated by Sinkler is as follows: The patient is placed in a hot-water cabinet until perspiration begins, then given the circular or so-called needle bath for one minute, beginning with a temperature of 95, gradually reducing it to 85 with pressure of 20 pounds. The Scotch douche is then applied to the spine, alternating hot and cold water, at a temperature of 105 and 80, under the same pressure. The treatment usually first lasts only 25 or 30 seconds. After a few days the pressure is increased to 25 or 30 pounds, and the extremes of temperature used are much greater, alternating from between 110 and 70. After about two weeks' treatment, in addition to the circular and Scotch douche, the fan douche may be used for the body, abdomen and extremities. The patient's condition should be carefully watched, and if reaction is not good, go slowly in reducing the temperature and increasing the pressure. It is his custom to have the pulse, temperature and respiration taken before and after the treatment, and have the patient weighed also before and after. After the bath, brisk friction is applied with a warm, dry towel, and a few minutes' general surface massage is given; then the patient is sent out for a walk. Taking exercise after the bath is a point which Dr. Baruch insists upon as it promotes reaction. Hydrotherapy does not agree with all neurasthenics and each case should be treated individually and carefully watched. But if the different baths produce an unsatisfactory result it is best to begin with the wet pack and sponging of the spine witth warm and cold water at home. In some cases the drip sheet does more good than either the wet pack or hot bath. Insomnia is a condition greatly benefited by this treatment, also melancholia and other conditions.

125. **Gallstones.**—McCalla reports a case in which after cholecystotomy followed by fistula and apparent obstruction of the gall duct from inflammation due to impacted stones which were removed, he waited until after the peritoneal cavity was sufficiently isolated from the drainage wound and used hot water, temperature 130 F., at a pressure of several feet for some seconds to force an opening in the duct, with success. Later he carried the water pressure as high as twelve feet. The result was that the bile escaped into the intestines, the drainage wound healed up, and the patient recovered her health.

130. **Tuberculosis.**—Gibbes says that he would not be surprised if Koch had a still more startling statement yet, and the one in regard to human and bovine tuberculosis was somewhat of a pioneer balloon. It must be remembered that he has never gone so far as some of his disciples, and that years ago he admitted having seen cases where no tubercle bacilli could be found. Gibbes himself believes that there are two conditions which go under the name of consumption and which should have entirely different treatment. The first is purely inflammatory, beginning as a bronchitis, extending into the lungs as bronchial pneumonia and forming a consolidation varying according to the intensity of the inflammation and the number of infected bronchioles. If the vitality of the patient is low or the intensity of the inflammatory process great, so as to overcome the natural resistance of the part, necrosis results, and after a while a cavity is formed. Careful study of these facts has proven that they are purely inflammatory from first to last and bacteriologic examination fails to reveal the tubercle bacilli in sections of any consolidation of the lungs until these organs begin to break down; then they are usually pres-

ent in large numbers. He asks when these cases become tubercular; he feels sure that it is the stage when the tubercle bacilli appeared and that was when the diseased process had destroyed so much lung that the patient would have died anyway. He maintains that over 50 per cent. of lung cavities are due to bronchial pneumonia. The other form is an entirely different process. The patient commences with stooping and rounding of the shoulders, lassitude and fatigue, dulness of the apex, generally the left. There may be no cough at this early stage, the dulness constantly extends downward and then gradually all the familiar symptoms develop. There is no expectoration in the early stages as the bronchi are not affected. There is no acute inflammatory process extending into the lungs, the diseased process is going on in the lung itself and consists of a new growth, which starting in one apex gradually substitutes itself for the normal lung tissue. We have, therefore, two disease processes, differing in everything but their results, viz., cavitation of the lungs, and they must not be treated in the same manner. The difference should be recognized at once on examining the case. The principal perceptible difference appears to be the existence of moist râles between the edge of consolidation and the functionating lung, indicating a positive bronchial pneumonia instead of a tubercular growth of abnormal tissue.

140. **Medico-Sociologic Problems.**—The evils from vices and mistakes in the raising of children are noticed by Kime, who advocates the sterilization of criminals and the prohibition or restriction of marriage of idiots, insane, tuberculous, epileptics, dypsomaniacs and syphilities, also the raising of the age of consent and the regulation of child labor. These are a few things which he thinks would favorably affect the development of the race; others will be considered later.

143. **Epilepsy.**—Spratling's article considers the subject of epilepsy, particularly its causation, and finds that nearly 85 per cent. of epileptics became so before they reached the age of 20 and that the four factors of heredity—epilepsy, alcoholism, insanity and tuberculosis—in addition to the cerebral palsy cases of early life, produce 67 per cent. of all cases we meet. The time to treat the epileptic, therefore, is while he is young, and the disease but recently developed. As regards surgical work, he thinks much that has been done ought not to have been done. The great principle of doing no harm should be observed in these cases. Before any operation is undertaken to relieve the epilepsy the case should be studied from all sides, taking into account the hereditary factors, character, duration, etc., of the seizures, and especially the mental condition of the patient at the time. If this has been impaired he doubts the propriety of any operation as a means of cure. He does not wish to create the impression that epilepsy is incurable, for some can be cured and fully 75 per cent. of all cases can be greatly benefited.

147. **Tuberculosis and Trades.**—The question as to what business had best be carried on by tuberculous patients is treated of by Ambler, who thinks that tuberculous patients should not have charge of public halls or places where people assemble. He calls attention particularly to clerks and others that handle food stuffs. The butcher, the thinks, generally possesses an immunity, at least that has been his experience, but bakers are particularly susceptible. While the baking of bread may destroy the tubercle bacillus that has gone into the material before, and in this respect diminishes the danger, this is not the case with green vegetables or those that are eaten in the same condition in which they are purchased. Tuberculous individuals, therefore, should not be employed in market places or in stores generally, and yet there are few physicians who can not cite cases where such are employed in just these occupations.

FOREIGN.

British Medical Journal, September 28.

The Action of Arsenic on the Healthy Tissues of the Skin. LESLIE ROBERTS.—The action of arsenic on the skin is, to some extent, veiled in uncertainty. It is astonishing how readily it can gain access to the body, food, garments, wall paper, etc. In fact whenever chemists wish to test its presence in any body they require previously to satisfy themselves that it is absent in the reagents and all apparatus to be employed. Starting from the scientifically established fact that arsenic possesses like hemoglobin a respiratory property, as shown by Binz and others, we must seek the answer to the question, whether the development of active oxygen within the tissues of the skin is actually the direct cause of morbid changes in these tissues and of the whole train of symptoms which accompany arsenical poisoning? In other words, is the cause dynamic rather than simple and direct and are the extraordinary effects which it produces of a nutritive rather than of an inflammatory order? After these introductory remarks Roberts notes the presence of arsenic in the human tissues and shows that the thyroid gland contains by far the largest proportion. It is also found in very small quantities in the mammary glands, thymus, with traces in the hair, horns, skin, milk and bones, with not a trace to be discovered in the blood or urine, and but a very minute one in the feces. Arsenic is, therefore, with one variable exception found in the areas of quiet oxidation, while all those in rapid oxidation are free from all traces of it. Normal physiologic arsenic is also removed from the body chiefly by keratinized cells of the cutaneous epithelium and in very minute quantities by the feces. It seems possible that the health of the body, as well as the maintenance of healthy metabolism of the skin, is dependent upon the chemical partnership of mercury, iodids, phosphorus, and arsenic, largely in the thyroid gland. The effects of arsenic on the skin are, 1, pigmentation; 2, hyperkeratinization; 3, desquamation; 4, atrophy, and 5, fatty degeneration. The pigment is melanin, which appears to be developed within the germinal epithelium as the result of arsenical stimulation. Hyperkeratinization is the most important sign of arsenical poisoning. It involves the strata above the cones and the tendency is toward complete arrest of inward growth. Desquamation is another highly characteristic symptom, especially in its chronic manifestation. Atrophy and fatty degeneration are later phenomena. Gautier infers, and it may be proven possible in the future, that there exist in the body certain functional elements. Only a few of these have as yet been discovered, but he assumes them to be essential for certain specific functions. Thus manganese is said to be essential to the oxidizing ferment; iodin to the thyroid; phosphorus to nucleins; fluorin to the bone cells. Some of these functional elements appear to play the principal part, others may be styled substitution elements; thus arsenic may take the place of phosphorus in relation to nucleins; selenium act for sulphur; copper, zinc or manganese may replace iron and so on. But one thing we have to learn, viz., that arsenic is not merely a drug possessing curative powers, and that it is not necessarily an irritant poison; that it is not a poison in itself, but that its action is initiated and determined by the tissues themselves; that its effects are essentially of a nutritive order brought about by the agency of active oxygen, and that these effects are beneficent to the organism when the oxidation is slow, and injurious when too rapid. The more highly organized the cell and unstable its protoplasm and the more rapid its metabolic processes, the more rapidly does it feel and manifest the action of arsenic.

A Note on the Morbid Conditions Simulating Adenoids. WYATT WINGRAVE.—The conditions that simulate adenoids are, according to Wingrave, as follows: 1. Diminutive choanæ and nostrils, which are frequent; usually associated with a low pharyngeal vault and imperfect maxillary development; immobile velum palati, and a gothic arched palate. The nostrils may be uniformly diminutive, or may be normal, while the turbinals are disproportionately large. The former condition seems to be associated with development of the maxilla while the turbinal disproportion is especially associated with puberty and the balance may not be restored for several years. 2. The low pharyngeal vault which occurs in rickety children, and often accompanies the former conditions. 3. Paresis of the soft palate and pharyngeal muscles, which may be the result of any form of nasal obstruction and due to various forms of

paralysis or neglect, or bad breathing habits. 4. Prominent crest of the vomer or backward prolongation of the nasal septum, which is not rare. This is often associated with other abnormalities. 5. Forward projection of the vertebral column, in which the arch of the atlas is the chief offender, though the second and even the third cervical bodies may often be involved. 6. Retropharyngeal abscess, and here Wingrave calls special attention to the retropharyngeal lymphatic gland, supposed to be only present in early life, and which may be the seat of acute or chronic inflammation, giving rise to swellings that seriously encroach upon the upper passages. 7. Undue prominence of the soft parts covering the internal pterygoid plate and the tuberosity of the palate is not rare, and is associated with general thickening of the mucous membrane. 8. Finally, the postnasal space may be obstructed by webs and neoplasms which can not be described in this communication. These here enumerated include the commonest only of these morbid conditions that simulate or are responsible for the existence and persistence of "adenoid" symptoms.

On the **Removal of Tonsils in Adults.** H. Lambert Lack.—The removal of tonsils in adults is not such a simple matter as it is in children: 1, on account of the danger of hemorrhage, which is much more common in patients over 15 years of age; and 2, the effect it may have upon the voice. The methods of removal are noticed by Lack, who remarks first on the electric cautery, which is suitable for much enlarged tonsils where removal is not necessitated by recurring tonsillitis and complete removal is undesirable. Tonsillotomy should never be performed in adults with very large tonsils, but in some cases where repeated attacks of tonsillitis occur and the tonsils are too small to be snared, they may be cut away to some extent. Removal with the cautery snare leaves a large charred wound in the throat with increased danger of infection, and is not favorably mentioned. The cold-wire snare is the only method applicable to cases of much enlarged tonsils and seems to have more advantages here than any other method. Enucleation by incision through the mucous membrane between the anterior pillar of the fauces and the anterior border of the tonsils, shelling out the tonsils, is not difficult to perform if care is taken to keep outside the tonsil capsule. General anesthesia, however, is advisable. There is little risk of hemorrhage; the tonsil is completely removed and in some cases of flat tonsil there is no other applicable method. Each case, however, must be judged by itself; there should be no routine method for all.

The Lancet, September 28.

The Diagnosis of Cancer of the Stomach. John C. Hemmeter.—The early diagnosis of cancer of the stomach is rare in the literature; the patients do not usually present themselves in time and decline to be submitted to methods most promising for early diagnosis. Hemmeter says: "The most important information from all the physical signs and symptoms and from the chemical and microscopic investigations may be arranged in the order of their diagnostic value as follows, but I do not desire to be dogmatic in this statement: 1. Chronic gastritis or nervous dyspepsia with progressive aggravation in spite of four weeks' proper treatment. 2. Progressive weakening of the peristaltic power. This can only be confused with the benign stenosis of the pylorus, but in the latter case—the benign stenosis—there is, as a rule, a normal or an excessive amount of hydrochloric acid. In malignant stenosis there is absence of hydrochloric acid and formation of lactic acid. The diagnosis between benign and malignant stenosis may be difficult at the beginning of the clinical observation of any case, but after two to four weeks of observation it should present no difficulties. 3. Progressive diminution in the amount of free hydrochloric acid with steady loss of peristaltic power. 4. The presence of large numbers of atypical and asymmetrical mitoses after gastric curettage, together with characteristic histologic changes in the glands previously described—especially in cases of motor insufficiency. With such clinical indications exploratory laparotomy should be undertaken, and where this step proved the diagnosis to be wrong, in my experience, it was discovered that conditions were present which necessitated operative interference anyway, such as, for instance, motor insufficiency from cicatrices, indurated ulcers, or adhesions. In this schema the diagnostic value of the Oppler-Boas bacilli, tumor, and lactic acid are not referred to because they are late signs. I do not wish to be understood to say, however, that a surgical operation should not be undertaken when these late signs are present. Many times even the presence of a tumor is not a contra-indication to an operation, because a malignant tumor in the stomach may be present, as I have noted on three occasions, and no signs of metastases of infection of the lymph glands were discoverable by a careful search at the necropsy." The diagnosis of carcinoma of the stomach is still in its rudimentary stage. The further development of the subject, the author thinks, does not depend so much upon the bacteriologic investigation as upon the pathologic and physiologic chemistry of the cell.

Syphilitic Affections of the Stomach. W. Soltau Fenwick.—It is thought that while the mouth and rectum commonly suffer from syphilitic lesions the stomach escapes, notwithstanding the evidence to the contrary. Syphilis may affect the stomach in three ways: 1. By the formation of gummata; 2, by producing endoarteritis; 3, by exciting chronic inflammation of the mucosa. Gummata of any size are rarely found. The tumor, which is often multiple, is usually in the submucous tissue of the pyloric region near the lesser curvature. It increases in size and its substance undergoes softening, which usually becomes destroyed and an ulcer is produced which has certain features distinguishing it from the simple variety. It is often irregular, scalloped or triangular. Its edges are thickened and undermined, while its wall and base are shaggy, cheesy, hemorrhagic or covered with firmly-adherent yellow slough. It is usually surrounded by an area of some degree of chronic inflammation and syphilitic manifestations occur in other portions of the abdominal viscera; perforation of the stomach has not been observed in these cases. Obliterative endarteritis affecting the gastric vessels must not be regarded as necessarily an indication of syphilis as it may be observed with chronic simple ulcer and other conditions. The syphilitic variety is rarely a primary complaint, and as far as Fenwick has observed is always associated with gummata in the liver, spleen, pancreas and elsewhere. It chiefly affects the smaller branches of the pyloric vessels and causes inflammatory thickening of the mucous membrane, interstitial hemorrhages and ulcerations. It may produce symptoms of chronic ulceration of the stomach or of dyspepsia followed by hematemesis. Chronic gastritis may be the direct or indirect result of syphilis. The latter is most common, and is due either to embarrassment of the gastric circulation from disease of the liver or spleen or to lardaceous degeneration of the vessels of the stomach, to secondary disease of the kidneys or to the specific cachexia. It does not differ histologically from the usual forms, and like them, usually subsides when the exciting cause has been removed. We should not fall into the mistake of many that every gastric ulcer occurring in syphilitics is due to syphilis. About 5 per cent. of all the population suffer from gastric ulcer from other causes and gastric irritation in a syphilitic subject may possibly be due to injudicious medication. Chronic syphilitic ulcer of the stomach is most common in men between 25 and 40, and in cases where secondary symptoms have been slight or rapidly removed by treatment. Pain is invariably present and nocturnal pain has been considered especially characteristic; this is also true of attacks of emesis during the night, though they may occur with simple ulceration. Anemia is invariably present, and the peculiar sallow complexion of many of the patients is suggestive of specific cachexia. As a rule the complaint fails to respond to ordinary means and may show a tendency to relapse even with anti-syphilitic remedies. Gastritis occurs both in hereditary and acquired syphilis, and is chiefly characterized by its chronicity and intractibility to ordinary treatment. The loss of flesh, anemia and debility are out of all proportion to local symptoms. The mild forms of gastritis occurring in adult life are practically undistinguishable from the alcoholic varieties, but in severe cases the anemia, debility.

etc., are suggestive of malignant growths. He has seen a number of cases where cancer has been diagnosed that were relieved by specific treatment, which is a great point of distinction in these cases. The subjects of gastric cancer are very intolerant of mercury and the iodids, which is the reverse with the syphilitic form. The gastric crises of locomotor ataxia occur at irregular intervals and are seldom excited by the ingestion of food. A few days' trial of iodid of potassium will usually clear up any doubt. Rest, of course, and other methods given for ordinary gastric disorders are advisable, but mercury should always be combined with the iodids as the latter are less effective without it. The patient should be warned as to the dangers of a relapse.

Bulletin Medical (Paris), August 17.

Medical Injections of Quinin into the Cerebrospinal Fluid. JABOULAY.—The subarachnoid injection of cocain produces extensive but transient analgesia; when quinin is thus injected, the analgesia is less in extent, but it lasts for two weeks. Jaboulay has found the latter an effective measure for the relief and possibly cure of painful, purulent cystitis; cancers of the rectum; sciatica, arthralgia of the pelvis and hip; neuritis of the leg; pelvic neuralgia; incontinence of urine, and inveterate onanism. He uses the quinin in a concentrated solution, .5 cg. to the cubic centimeter. He has found 5 cg., or even 2.5 cg. sufficient for the curative effect, while this amount is not large enough to cause neuritis or destructive lesions of the cauda equina. He makes the injection in the lumbar subarachnoid space. The analgesia induced includes the genital organs, bladder and rectum. It is accompanied by paresis of the corresponding muscles. With a larger dose it is possible to induce anesthesia of the foot and lower portion of the leg, suggesting that this measure may prove useful in the treatment of Little's disease. He points out that the varying results obtained by various surgeons in spinal cocainization is largely due to the temperature of the solution of cocain. When it is heated to 99.5 F. its diffusion is more rapid. If not warmed, it stays at the bottom of the subarachnoid cavity, and it loses .005 of its density when heated to 104 F. Both cocain and quinin should be used only for medical and not for surgical purposes, as surgical anesthesia can be obtained by simpler measures.

September 4.

Aid to Prognosis of Diphtheria. RABOT.—The subcutaneous injection of saline solution in a child with diphtheria may throw light on the prognosis. If the child voids more urine after it, without vomiting or diarrhea, the diphtheria will run a mild course, no matter how stormy the onset. But if the amount of urine is not increased, and the little patient vomits or has diarrhea, the prognosis is grave, even in apparently benign cases. The latter phenomena indicate that the toxins have affected the heart fibers, and the organ is thus unable to respond to the action of the saline solution.

Presse Medicale (Paris), September 21.

Some Experimental Experiences with Phototherapy. R. ROMME.—Borissoff reports tests with dogs and rabbits which showed that the growth and development was retarded in young animals kept in dark rooms. Even when the largest and strongest animals were transferred to the dark rooms, by the end of the second week their growth was less in proportion than that of the control animals in ordinary light rooms. He compares the stimulus exerted by the light to that of exercise on a muscle. Drigalski found that the electric rays, far from possessing any bactericidal power, predisposed the animal organism to infection, and enhanced its gravity. This fact can not be due to the heat alone, as other animals kept at the same temperature, but not exposed to the electric light, proved much more resistant in all the tests. Strebel has found electric light baths applied as a therapeutic measure, effectual in curing soft chancres, leg ulcers, acne, and, in general, all ulcerating cutaneous lesions; he eliminates the heat rays by passing the light through a vessel containing copper sulphate solution. In rheumatic affections the results were inferior to those obtained by hot air, but the treatment proved more efficacious in arteriosclerosis, in fatty degeneration of the heart, in a few cases of bronchial catarrh, and occasionally in neuralgia. The effect was negative in nephritis.

Curable Gangrene of the Lids. H. ROGER.—A robust man with no pathologic antecedents, was suddenly affected with spontaneous gangrene of the lids of one eye. It commenced with a simple patch of inflammatory edema, followed by fever for four days, the entire process developing to complete restitution in twenty-one days. The eye was not involved. Only one similar case could be found in the literature. A large aërobic micrococcus was cultivated from the serum, pathogenic for rabbits and guinea-pigs, but harmless for rats. The micrococci discovered in the lesions of gangrenous mammitis are also aërobic.

Treatment of "Thin Diabetes." P. MAUCQUAIRE.—Lancereaux applies the term "diabète maigre" to the glycosuria connected with an affection of the pancreas, in opposition to the "fat diabetes" of arthritic and gouty subjects. The pancreatic juice may be produced in excess in this variety of diabetes, or it may be deficient. Several comparative tests on rabbits are described, which suggest that the sugar produced in the organism by the transformation of starchy food, and the sugar generated in the tissues by autodigestion, pass into the liver. Here, in normal conditions, they are transformed into glycogen and deposited. The liver ferment, whose formation is dependent on the pancreatic zymases and the pancreatic juice itself, dissolves this stored glycogen as needed, and the sugar is transformed in the circulation into water and carbon dioxid. Absence of the pancreatic juice in an affection of the pancreas, entails the absence of the liver ferment. The glycogen in the liver is not dissolved, and the sugar which constantly arrives from the food or autodigestion, finding no room in the liver, continues to circulate in the blood until the kidneys separate it and eliminate it in the urine. The practical conclusions from this hypothesis are that the physician should not hesitate to administer pancreatin in cases of "thin diabetes" in a dosage as high as three to eight grams a day, if necessary.

Painless Application of Sublimate to Mucous Membranes. DE PIERRIS.—The smarting produced by the application of water to the nasal mucous membrane is due to the lack of isotonicity between the molecular concentration of the blood and of the fluid employed. The smarting can be prevented by adding about 9 per cent. of salt, which renders the fluid isotonic with the blood. When this is done, sublimate can also be added, 1 to 10,000, or even 1 to 4000. It does not induce the slightest pain in this isotonic combination with saline solution, but otherwise it does.

Revue de Medecine (Paris), September.

Cerebellar Hereditary Ataxy. A. THOMA.—The Haud family, of Paris, is distinguished by the fact that five members of the family in two generations have presented the same curious ataxy with other cerebellar symptoms. The various cases were carefully studied. The autopsy findings in the case of Amelia, who succumbed last, at the age of 47, show the same anatomic foundation as all the others—a lesion in the cerebellum or cerebellar tracts. The cerebrospinal axis was exceptionally small in every case, but the lesion itself differed in nature and exact site in each. The cerebellum was small, but the spinal cord was still smaller in proportion. Actual degeneration was noted only at a few points, especially and invariably in the cerebellar tracts. Aside from this Haud family, Sanger Brown's is the only other instance known of family hereditary ataxy, and in his case the lesion extended through the cerebellar system in the cord while the involvement of the cerebellum itself was doubtful.

Two Cases of Sciatic Neuritis Caused by Mercurial Injections. DOPTER.—After the unfortunate experience indicated in the title, Dopter made a study of the danger zone for these injections. He has established that the course of the sciatic nerve follows a line starting two fingers' breadth outside of the postero-superior iliac spine and terminating in the median axis of the posterior surface of the thigh. The danger zone extends 3 cm. each side of this line, from the sacro-sciatic foramen, where the nerve emerges, to the center of the dividing line of the buttocks below.

Revue Mensuelle des Mal. des Enfants (Paris), September.

Cocain **Cause of Idiocy in Offspring.** A. B. MARFAN.—A healthy couple had two healthy children, when the father became addicted to the use of cocain. For years he was in the habit of taking as much as three grams a day, exclusively by the nose. Two children have since been born, both typical specimens of microcephalous idiocy.

Revue de Therapeutique (Paris), August 15 and September 1.

Influence **of Certain Foods on the Gastric Juice.** POTAPOW PRACAITIS.—In Schiff's experiments on dogs, he found that a marked peptogenic power was possessed by dextrin, bouillon, raw meat, bread, cheese, peptones, gelatin and black coffee. Pawlow found that Liebig's extract, bouillon, water, milk, gelatin and raw meat possess the property of increasing the secretion of gastric juice. In the research described in the present article, it was established that the results obtained by Schiff and Pawlow supplement and confirm each other. Certain substances, such as bouillon and raw meat, are both peptogenic and gastric juice-producing, or succagogue. The influence on the secretion of gastric juice is completely abolished when the substances are administered by the rectum, showing that the direct intervention of the nervous system is required for this sympathetic reflex secretion. On the other hand, the peptogenic effect is fully as marked when the substance is absorbed by the rectum as when absorbed by the stomach. The peptogenic effect is, therefore, transmitted by the intermediation of the blood.

Semaine Medicale (Paris), September 18.

Nodular **Tuberculosis of the Prepuce.** J. SABRAZÉS.—A lump the size and shape of an olive developed in the under surface of the prepuce, about 1.5 cm. above its free edge, in a man of 26. It simulated a sebaceous cyst, but it appeared about a year after the patient had noted dull pains in the renal and hypogastric regions and displayed other symptoms of slowly developing tuberculous lesions of the urogenital organs. Koch's bacillus was discovered in the urine, and also in the caseous masses which formed a large portion of the tumor. It was readily excised, and the patient was thus relieved of his most troublesome symptoms, and was able to resume his occupation.

Treatment **of Malaria with Iodin.** REGNAULT.—During an attack of malaria assuming the gastro-bilious form and rebellious to quinin, Regnault took a teaspoonful of a mixture of tincture of iodin and potassium iodid, 4 gm. of each, in 100 gm. of water. This was equivalent to 2 cg. of pure iodin, and he found that the chill was arrested in fifteen minutes and the skin resumed its functions. He has administered it to numbers of patients since, and always with the same result, the prompt subsidence of the attack. A second dose is rarely necessary. Quinin has to be taken before the attack; if it fails to prevent it, the iodin treatment is indicated during or, better still, at the commencement of the attack. On account of the incompatibility of iodin and quinin, the two should not be taken together.

Berliner Klin. Wochenschrift, September 2.

Relations **Between Human and Bovine Tuberculosis.** P. BAUMGARTEN.—Twenty years ago Rokitansky conceived the idea that it might be possible to arrest or even to cure malignant tumors by the antagonistic action of the tubercle bacillus which was an article of belief at that day. He consequently considered himself justified in taking advantage of this possibility in the treatment of otherwise hopelessly doomed patients with inoperable carcinoma or sarcoma. As the tubercle bacilli of human and of bovine tuberculosis were considered identical, the latter were used for the purpose, and more than half a dozen patients were thus inoculated with considerable amounts of bacilli taken from cattle, and which had proved their extreme virulence in tests on rabbits. Most of the patients survived from several months to over a year, but, after the healing of the pustule induced by the injections, none of them exhibited any signs of tuberculosis, and neither macroscopic nor microscopic tuberculous lesions were discovered at any autopsy, although Baumgarten was himself prosector at the time and all passed through his hands. The inoculations had no noticeable effect on the patients, and the attempted treatment was abandoned. In 1893 one of Baumgarten's pupils inoculated two calves with tubercle bacilli, one in the eye with bacilli from the ox, and the other in the eye and flank with bacilli from tuberculous patients. One calf died in six weeks with all the symptoms and anatomic lesions of diffuse miliary tuberculosis, such as is seen in man. The second calf, inoculated with human tuberculosis, remained healthy, and, when killed several months later, no traces of either human or bovine tuberculosis could be discovered. The control rabbit died of generalized tubercular lesions in about five months. Baumgarten adds that he has not been able to find in the literature a single authentic instance of the transmission of human tuberculosis to cattle. He agrees with Koch that practically there is very little danger to man from bovine tuberculosis, but he is convinced of the identity of the bacilli and that external circumstances are responsible for their differences. The classic picture of human miliary tuberculosis was induced in the calf mentioned, and Tangl and Troje have also demonstrated that certain external factors, such as the fumes of iodoform, may modify the pathogenic properties of human tubercle bacilli to such an extent that they induce the bovine form of tuberculosis when inoculated into animals. The histologic identity of both forms is confirmed by the fact that the caseous process so characteristic of human tuberculosis, occurs likewise in the bovine tubercles, only it is frequently disguised by the rapidly succeeding calcification of the caseous masses. This has nothing to do with the essential disease process, and is often observed in the caseous masses in man. The extent of the calcification in animals is probably due to their larger proportion of calcium salts. The variability in the pathogenic properties of bacteria is a familiar fact. It is more than probable that the bacilli have adapted themselves to their habitat in the course of time, and lost their pathogenic properties for others. But until this is definitely established he observes that there should be no relaxation in the prophylactic measures employed, as further research may lead to opposite conclusions.

Treatment After Operation of Diffuse Purulent Peritonitis. T. GLUCK.—The principles on which Gluck bases his after-treatment are exemplified in the smooth and rapid recovery of a man who had been gored by an ox. When he recovered consciousness he found his intestines lying between his knees, covered with blood, ditch water, fecal matters, dirt and sawdust, and exposed to the glare of the direct sunlight for hours. Gluck believes that warmth, moisture and the action of light, favor the healing of peritonitis or any intestinal lesion after an operation. After much experimental research on animals, applying the results to man, he constructed an apparatus in which the intestines are eventrated and received in a warm, moist, glass case, which allows the action of electric light and frequent irrigation. Cardiac insufficiency or paralysis frequently follows the reposition of the intestines after a laparotomy; this danger is entirely obviated, as the intestines are not replaced until all danger of shock is past. He mentions Fenton B. Turck's views with especial approval. After the operation the patient is placed on a water mattress on a frame, to which the box for the intestines is fastened. The whole is then placed in an empty bathtub, and Schäfer's warm water regulator is attached. Gluck has thus treated cases of gangrenous hernia, volvulus after perforation of the appendix, and peritoneal tuberculosis, besides the ordinary diffuse purulent peritonitis. His results have been so favorable that he considers this method as a brilliant progress in surgery, although he claims no priority for it, as it is merely the legitimate outcome of the general trend of abdominal surgery, and as the technique is still far from perfect. In certain uncomplicated cases of diffuse peritonitis, a small laparotomy with lavage of the peritoneum may be sufficient, using a 3 per cent. solution of salt and boric acid or of 1 per cent. salicylic acid, and glass drainage or tamponing. The continuous bath is liable to infect the wound. The abdominal wound should not be sutured at all, but should be left wide open. By this

means the peritoneum can be thoroughly cleansed and the organism relieved of the task of resorbing, eliminating and overcoming the infection. *Restitutio ad integrum* becomes possible, especially in case of tuberculous processes. Gluck uses the apparatus alone or in combination with a loose tampon over which is drawn a gauze bag. When the strings of the bag are drawn up like those of a tobacco pouch, the enclosed intestines are protected. Another method is to pass long silk threads through the fascia and muscles of the wound and tie them, after loosely piling up a mound of gauze in the wound, over which the threads are tied. The box for the intestines might be modified so as to be used even during the operation.

Balancing Extension. F. CRAMER.—The foot of the patient is attached to a weight suspended from a pulley at the head of the bed. The rope passes over the pulley on a frame above; under a pulley fastened to his ankle; over a second pulley above, and finally under a second pulley on the tip of the foot; it then fastens to a hook in the frame above close to the foot of the bed. The rope above the patient's leg thus outlines a W. Another weight is suspended from a pulley at the foot of the bed, not far above the plane on which he lies, and this rope is attached to his heel. The limb is thus in continual extension, but at the same time considerable movement is possible.

Centralblatt f. Innere Medizin (Leipsic), August 24.

Leucocytosis in an Outbreak of Sweat. W. HAMES.—The leucocytes increased by 3000 and 5000, and in some cases to double the previous amount in all the children examined, except those in cachexia, fifteen minutes after either natural or induced sweating. Half an hour after the children were wiped, dressed and transferred to a freshly made bed, the leucocytes had returned to the normal number. About twenty-nine children were tested and the results confirm the function of positive chemotaxis exerted by the hydrotics, and antipyretics in febrile conditions, as well as by the spontaneous or induced sweats in both health and disease.

September 7.

Gymnastics on the Sickbed. H. ZEEHUISEN.—During convalescence from infectious disease, and in conditions requiring rest in bed, great benefit may be derived from systematic gymnastics under the physician's instructions. Convalescence is shortened, and recovery is more complete than without these gymnastics. As a typical example is described the case of an elderly woman, with fatty degeneration, arrythmia and edema of the legs. Medical treatment and rest had not alleviated any of the symptoms. Zeehuisen instituted a series of gymnastic movements as she lay in bed; each were performed but once, and with first one leg and then the other, three for the thigh and one for the knee. At first the movements were passive, then active and then against slight resistance, always in the morning. After two weeks each movement was repeated twice. The success of these measures in the course of two months was remarkable. Pulse, respiration and skin were normal; after a course of treatment at Bad Nauheim the patient has been completely cured for years and to date. These bed exercises are especially beneficial for bedridden obese patients, in certain gynecologic affections, in gout and particularly in traumatic neuroses.

Dermatologische Centralblatt (Berlin), September.

The Bottini Operation for Hypertrophied Prostate. C. STERN.—With chronic, complete retention and a hard prostate, the Bottini operation with Freudenberg's modification of Bottini's original galvanocautery, is a more effective procedure than any other known to date. All it claims to accomplish is to make an opening in the dam which is holding back the urine. It is safer than continual catheterization in the hands of the ordinary patient, but as in the case of a colleague who catheterized himself with ease and absolute asepsis, circumstances may render it superfluous. It should be reserved for cases which are persistently rebellious to ordinary measures.

Deutsche Med. Wochenschrift (Leipsic), September 26.

Treatment of Dysentery with Calomel. A. PLEHN.—The method of treating dysentery by small doses of calomel, inaugurated by Plehn, has abundantly proved its efficacy in his experience during the last three years at Cameroon, and also in South America, where it has been introduced. He orders first two tablespoonfuls of castor oil, which clears up the diagnosis and cleanses the intestines. The next morning he gives a tablet of 3 cg. of calomel every hour for twelve hours, continuing this treatment the next and the following day, suspending it at night. After each tablet the patient must rinse his mouth thoroughly with a solution of tincture of krameria or of salicylic acid. After three days of the calomel he substitutes a tablet of .5 gm. of bismuth every hour for twelve hours, continues this for three days and then reduces the amount to 6 gm. a day, until all pathologic symptoms have vanished, when he continues with 3 gm. a day for a time longer. A number of cases are described in detail showing the efficacy of this method of treatment. The calomel probably acts as a disinfectant. The germs causing the dysentery develop throughout the large intestine, but it is the products of their metabolism which cause the pain, the increased secretion, the disturbance in the intestinal resorption and the intense irritation of the intestinal walls. Under the action of these chemical toxins the mucous lining is destroyed, ulcerative processes develop and secondary infection is liable to occur, frequently due to the amoebæ. Calomel given continuously as described, kills the germs and the production of their toxins is arrested. The acute irritation of the intact mucous membrane rapidly subsides. If the ulcerations are already in progress, they may require some time to heal, but healing is promoted by a strictly fluid diet and the bismuth. Certain liver affections subsequent to slight intestinal infections, may likewise be due to the toxins secreted, as they rapidly recover under this calomel treatment of the primary intestinal infection. He is inclined to believe that the same treatment might prove effective in early cases of typhoid fever and in cholera, but he has had no opportunity to test it in these diseases. He recommends others to try six or eight doses of calomel every two hours in mild cases of dysentery.

A Case of Tuberculosis of the Knee Benefited by Koch's New Tuberculin. BRUNZLOW.—The patient was a lad of 14, who had suffered from a tubercular affection of the knee since 1897. After surgical treatment of the joint, the conditions became aggravated, and the general condition grew rapidly worse. He was then treated with tuberculin (T. R.), commencing with 1/1000 mg., and the beneficial effect was rapidly apparent, as the lad gained four and one-half pounds in the first week. He was treated with four separate courses of tuberculin, in two years, gradually increasing the dose from .0005 mg. to 2 mg. each time, carefully avoiding reaction and waiting until every trace of induced elevation of temperature had vanished before injecting the tuberculin again. The benefit was apparent in the rapid increase in weight and the disappearance of all local symptoms. At present, the joint is normally movable and free from pain, but the muscles are a little weaker than in the other knee, and a faint grating sound can be heard on movement. There is still a slight reaction to a test-injection of old tuberculin, and consequently the case is not a cure. However, the results show such improvement in every respect, with constant gain in weight, that they should encourage others to try tuberculin as a therapeutic measure in rebellious cases of surgical tuberculosis.

Treatment of Exudates. E. HOMBERGER.—The fluids of the body always seek to maintain an osmotic balance. If we assume that the blood and an exudate or transudate have the same osmotic tension, dilution of the blood will be followed by the passage of the excess of water into the exudate, reducing the osmotic tension of the latter, while the concentration of the blood increases in proportion. As the blood becomes more concentrated, the exudate is reabsorbed under the action of the same laws of osmosis. Homberger states that by utilizing these principles we have an effective means at our disposal of promoting reabsorption of exudates and transudates. The blood can be diluted by the administration of water. It is absorbed more readily if taken in small amounts in an empty

stomach, and most rapidly of all, when the water is slightly acid and weak in salts. Nature demands water in infectious fevers and lemonade not only relieves the thirst, but has a directly curative influence on the disease by promoting osmosis. The benefit of saline infusion is directly due to the water. In diabetes, the sugar in the blood causes absorption of water from the tissues, in Nature's attempt to restore the balance of osmotic pressure. The overfilled vascular system empties the excess of water into the kidneys, while Nature calls for more water to supply the demand, thus explaining the polyuria and thirst in diabetes. Homberger concludes by stating his belief that in therapeutics the internal use of water is as important as its external use, and that it can be harmful only in exceptional cases. Simmonds announced last year that in none of the autopsies which he has conducted was he able to detect any indications that the infusion of saline solution had been responsible for dilatation of the right ventricle. The great objection, that a weak heart is not able to stand it, is thus shown to be unfounded.

Lamp for Photography on a New Principle. Sophus Bang.—All the lamps hitherto used for phototherapy were originally constructed for optical purposes. None of them aimed to produce a cold light, rich in ultra-violet rays. Bang announces that he has devised a lamp in which the materials were selected for their properties in the spectrum. He finds iron most suitable for the electrodes, instead of carbon tips, and keeps it cool by a circulation of water inside. The iron tips do not generate rays, and the light is actually an arc light, as the rays are generated in the space between the tips. Its bactericidal power is sixty times greater than that of the ordinary arc light. Its effect on the skin is likewise much more intense. Five minutes' exposure at a distance of one yard will induce a severe erythema of several days' duration. For local treatment, he has designed a small lamp, which, with the compressor, is not much larger than an ordinary tablespoon. The whole is placed directly on the skin, as there is so little heat that a distance of 1 to 1.5 cm. is ample. With 5 amperes and 40 volts, it is possible to obtain in five minutes as strong a reaction over 10 sq. c., as has hitherto been obtained with an apparatus of 60 amperes and 50 volts in one and one-quarter hours. As the light is so powerful, neither concentration nor automatic regulation is required, and it can thus be very cheaply constructed.

Three Cases of Pure Hereditary Ataxia. E. Weber.—A family is described in which three children present the typical clinical picture of Friedreich's disease. The parents are healthy and well-to-do, and have two other healthy children. The affection commenced about the sixth year in each, and can be observed in the three patients in the incipient, established and advanced stages. The youngest is 7, and the oldest 18 and bedridden. The ataxia in his case is more pronounced than Weber has ever witnessed in any tabetic subject.

Value of Colchicin in Gout. K. Kuester.—Since restricting himself to a more vegetable diet and avoiding meat, Kuester has found that he suffers less with gout, to which he is naturally and hereditarily predisposed. An occasional attack still occurs, and he finds relief in colchicin alone. He takes it in pills, 5 cg. colchicin to 1.5 gm. each of licorice extract and powder, to make 20 pills. Two of these will frequently abort a mild attack, and four pills in the course of two days reduce the symptoms very materially and shorten the course of the attack. Thus, after reclining for one day, he is soon able to attend to his practice, and is agile again in eight to ten days, with all the gouty deposits absorbed. Without the colchicin, he has to recline for two weeks and is stiff and aching for three weeks longer. His personal experience has been confirmed by that of gouty patients for whom he has prescribed the colchicin.

Treatment of Meniere's Symptom-Complex. G. Heermann.—Certain symptoms in this affection can be traced to the ears, others to the nerves, and others to a general cause. In order to differentiate and apply appropriate treatment, Heermann has been appealing to his colleagues to report their experiences. He sends a blank circular on demand and gratefully receives all communications addressed to him at Kiel. During the acute attacks he states that a position in which the vertigo is attenuated can almost always be found, but the patient is unable to find it for himself. He must be made to recline, with the upper part of the body slightly raised and the head turned toward the sound side. Both the nausea and the vertigo become much attenuated when the correct position is found. The bromids are the only internal remedies of any value. In case of syphilitic antecedents specific treatment is indicated. If there is a history of a preceding chronic, suppurating otitis media, the semi-circular canal must be opened up, and a cholesteatoma is sometimes found. The Ménière symptoms may appear during the course of a dry catarrh of the middle ear. Besides the usual treatment of this condition, Heermann advocates pilocarpin. He commences with one-tenth of a Pravaz syringeful of a 2 per cent. solution, increasing by one-tenth daily until copious sweating is induced; usually less than seven-tenths are required. The patient must stay in bed while sweating. The pilocarpin banishes the vertigo, and frequently improves the hearing, but is contraindicated in case of elderly or corpulent persons. In apoplectiform deafness it has worked wonders in his experience. He also found thyroid treatment beneficial in two cases with goiter. The patient may have forgotten his old ear affection when the Ménière symptoms appear. The vertigo in such a case is liable to be attributed to the stomach. There is frequently pronounced stagnation in the vascular system and constipation. Appropriate local treatment and out-of-door exercise may improve the hearing with the general health, and the vertigo vanishes. He describes several instructive examples. One patient, for instance, with bilateral chronic catarrh of the middle ear, exhibited the Ménière symptoms and deafness during and after a pregnancy. Treatment of the ear and twenty-one injections of pilocarpin, with exercise, resulted in the cure of all the symptoms including the deafness. They all returned during another pregnancy, but yielded as before. When the Ménière symptoms develop on a neuropathic basis, operation on the ear is liable to be distinctly injurious. It is in these cases that quinin, electricity and similar measures score their triumphs. Quinin should be completely avoided by the aurist, as well as the salicylates, as they expose the functions of a diseased ear to the most serious dangers.

To Test the Permeability of the Nose. F. Bruck.—The Journal described Glatzel's mirror, in the issue for September 28, p. 874. Bruck points out that it tests the permeability of the nose during expiration only, while it affords no information in regard to inspiration. The latter may be hindered by a floating polyp, sucking in of the nostrils or other impediment affecting inspiration alone.

Therapeutische Monatshefte (Berlin), August.

Treatment of Scrofulosis and Tuberculosis by Inunctions of Cod-Liver Oil. B. Rohden.—For five years Rohden has been using a mixture of 50 per cent. deodorized cod-liver oil, balsam of Peru, and oil of cinnamon, lemon and thyme, combined with lanolin, glycerin and an alkali, to rub into the skin of scrofulous and tuberculous children. He reports extremely satisfactory results from this inunction with "dermosapol," as he calls the mixture. It is a stable, aromatic preparation, of which every particle is absorbed. It is rubbed into the chest and back in the morning, and into the abdomen, buttocks and limbs at night. About 100 gm. are required for ten or twelve days. The cells and tissues are influenced by the cod-liver oil and the lymph becomes saturated with the ethereal oils and the balsam. Tuberculosis on a scrofulous basis is exceptionally benefited by this treatment, especially glandular and joint affections and lupous lesions.

Artificial Respiration in Treatment of Bronchitis. Heermann.—An apparently moribund, six-months' infant in progressing bronchitis was saved by artificial respiration, including Schultze's swinging and pressure on the false ribs, maintained for two hours. Since then Heermann has ordered artifical respiration in every severe case of bronchitis in a child. The nurse or the parents are instructed to apply slight pressure with one hand on the false ribs during expiration.

changing the hand frequently. Expectoration is promoted, respiration deepened, the rapid breathing becomes slower and the pulse stronger. The expulsion of accumulated secretions is promoted by this measure, and the threatening paralysis of the muscles of respiration averted. The procedure is repeated several times a day for half an hour at a time.

Suturing the Tissues Without Foreign Material. F. SCHULTZE.—The conditions of success with the method of suturing which Schultze has been using with great satisfaction for two years, are complete hemostasis, and normal elasticity of the skin. The lips of the wound are coaptated and a row of Roser's torsion forceps is applied .5 to 1 cm. apart to hold the lips together. Cotton-collodion dressings are then applied in the interspaces. As soon as the collodion is dry, the forceps are removed, and a protecting bandage applied over the whole.

September.

Dietetic Treatment of Pregnancy. PROCHOWNIK.—Delivery can be almost certainly much facilitated in women with a small conjugata vera, not less than 8 cm. in diameter, by restricting the fluids to 500 c.c. a day, with 130 to 160 albumin, 80 to 130 fats and 100 carbohydrates, the total averaging 1800 to 2000 calories. Prochownik has now a record of 17 personal cases, and 31 collected in the literature, with a total of 62 births, all the children being alive at the date of publication. The previous births had been extremely difficult and tedious, and many of the children had died. On the above diet for the last ten or twelve weeks all the deliveries were much easier. With a conjugata of less than 8 cm. artificial premature delivery is the only resource and the precautionary diet is unnecessary. In women with normal pelves, but debiliated from any cause, congenital chlorosis, hemorrhages, etc., he commences dieting treatment early in the pregnancy, with repose in bed or reclining out of doors, for several weeks, better away from the home environment. The patients are encouraged to take as much albumin, fats, cream and fluids as possible, with frictions, gentle massage and small amounts of iron. To develop the lacteal secretion in women whose mothers and grandmothers had been unable to nurse their children, he orders a diet rich in carbohydrates, with massage of breasts, and reports 7 cases in detail, showing benefit in 2. He also tabulates 5 cases of obesity in which he forbade soups, sweets, etc., and ordered exercise, massage of the entire body, except the stomach, and restricted the fluids to 500 or 600 c.c., with 120 to 130 gm. bread and other food to taste, but not in large amounts nor much at a time. He commences this dieting treatment of pregnant women with a tendency to obesity, as early as possible. He pleads for a more general study of this subject. The possibility of its efficacy is now demonstrated beyond question. It only remains to work out the details. He states that women in tropical climates, with their vegetable and fruit diet, usually bear children more easily than the women of the north, although the pelvis averages smaller in tropical races.

Wiener Med. Wochenschrift, August 31.

Serum Treatment of Erysipelas. V. JEZ.—The serum is derived from the same patient on whom it is used. It always induces a reaction, evidenced by a rise of temperature after one or two hours, and rapid improvement of all the symptoms. The number of leucocytes in the blood increases while the toxic substances are eliminated in the urine, as shown by its increased toxicity. No after-effects were noted in the ten cases in which Jez tried this serum treatment. If 5 to 10 gm. are not enough to induce the reaction, he increases the amount. The serum is taken from a blister artificially produced for the purpose.

Epilepsy Cured by an Intercurrent Disease. M. TURNOWSKY.—The three cases related all occurred under Turnowsky's personal observation, continued for many years. The first was a man of 38, who had from fifteen to twenty seizures on some days, the epilepsy dating from his seventeenth year, until 1887, when it was completely cured by an attack of croupous pneumonia. The second was a woman of 34, with five or six seizures during the month, between the age of 20 and 25. At this time she contracted pneumonia, and has had no seizure since. The third patient was a boy of 12, who used to have ten to fifteen seizures a day between the age of 2 and 6. At the latter age he contracted scarlet fever, and since then has been completely cured of his epilepsy. The cure in these cases has persisted respectively fourteen, ten and six years. He concludes with the suggestion that it would not be such a great risk to send an epileptic to a locality where pneumonia was endemic, or to expose an epileptic child to scarlet fever, as these cases, carefully observed, in addition to those on record in the literature, would fully establish the possibility of the disappearance of epilepsy after an intercurrent infectious disease.

Janus (Amsterdam), September.

Progress in the History of Medicine. H. F. A. PEYPERS.—"The universities in France and Germany are now discussing measures to give the history of medicine a larger place in the curriculum. In America many of the principal medical schools have a chair for the instruction of history of medicine. Dr. Sarah Hackett Stevenson, who is professor of obstetrics, ethics and the history of medicine at the Woman's Medical School, at Chicago, interests us particularly, as the combination of ethics with the history of medicine is such an excellent idea. This association is as rare in medical curricula up to the present time, as the presence of a woman in the faculty." Havana has a professor for the history of medicine and another for the history of pharmacy. From Australia comes an important work by Dr. W. J. Stewart McKay, entitled "History of Gynecology Among the Ancients." It seems remarkable to receive a serious work on the history of medicine from such a remote point as Sydney, so far from the universities and reference libraries of the old world.

Extragenital Endemics of Syphilis in Hungary. E. WEYNER.—Three of these endemics are on record; one was traced to a drinking cup used by the children of a school in which one of the teachers was syphilitic. In both the others, the infection occurred by arm to arm vaccination. In the latest endemic, 270 persons were infected by this means.

Gazzetta Degli Ospedali (Milan), September 22.

Koch's Views of Tuberculosis. E. MARAGLIANO.—The destructive action of the gastric juice and the auto-sterilization of the intestines recently promulgated by Kohlbruegge, explain the rarity of tuberculosis of the intestines from food infected by the tubercle bacillus, as well as from the bacilli in the sputa swallowed by tuberculous patients. This argument has therefore little value as cited by Koch to sustain his theory of the non-transmissibility of bovine tuberculosis to man. Maragliano has established that killed cultures of human tubercle bacilli cause intense toxic phenomena in cows and goats, showing that these animals are susceptible to the toxins of human tuberculosis, and, therefore, necessarily to its bacilli. Michelazzi has recently published the results of study of the prolonged use of sterilized milk from tuberculous cows. He demonstrates that the milk from a tuberculous animal, even if the teats are intact, and no bacilli pass into the milk, is yet extremely injurious, as the serum of the milk is toxic, even more toxic than that of the blood. The amount of toxin in the milk varies with the severity of the tuberculous process, but its toxic properties are unaltered, and are not affected by sterilizing the milk by heat. A chronic intoxication of the organism ingesting the milk is determined in time. His experiments at Pisa indicate that the profound marasmus accompanying tuberculosis in man and animals, is the result of the action of the toxins resulting from the presence of the tubercle bacilli, thus confirming Maragliano's assertions that tuberculosis is preeminently a toxicosis.

Serotherapy of Whooping Cough. T. SILVESTRI.—About 120 c.c. of blood were drawn from the arms of two children recovering from whooping cough. It was mixed with equal parts of saline solution and shaken up with 1 per cent. of chloroform and set aside to settle for twenty-four hours. It was then filtered and from 15 to 22 c.c. were injected into five other children with whooping cough. In two very severe cases the injection was repeated after five days. The effect of the serum treatment was evident at once. The general symptoms rapidly

vanished and the cough and broncho-pneumonic phenomena also subsided completely in from eight to eleven days.

Giornale Delle Accad. di Med. di Torino, July.

Severe Hemorrhage from the Ear. G. GRADENIGO.—Rohrer has recently related a case of severe hemorrhage from the ear, due to varices or bluish dilatations of the veins on both tympanic membranes. In Gradenigo's case the hemorrhage occurred during a paracentesis of the membrane on suspicion of acute otitis from the symptoms observed. There was no inflammation, but the incision opened an angiomatous tumor, with threatening arterial hemorrhage. The tumor was located just inside the membrane and may have been an aneurysmal dilatation of some abnormally diverging artery, but was more probably an angiomatous tumor with extensive dilatation of the vessels.

Hot Baths in Pneumonia. A. BORMANS.—When the fever goes above 39.5 C. (103 F.), Bormans places the patient in a bath tub of water at 40 C. (104 F.), first applying an ice-cap to his head and cooling the face with ice. As soon as the patient is immersed, water is added to raise the temperature of the bath to 44 C. (111 F.) and the temperature is maintained at this point for fifteen minutes, when the patient is returned to bed. The effect is extremely beneficial; the relief is almost immediate. The patient sweats profusely and his agitated delirium is quieted. In 12 cases thus treated, the crisis occurred on the fourth day in 3, the fifth day in 1, the sixth day in 4, the seventh day in 3, and the eighth day in 1. One patient died the eighth day with cerebrospinal meningitis. The afflux of blood to the periphery relieves the circulation in the lungs and the sweat eliminates a large proportion of the toxins. These hot baths are contra-indicated, of course, in case of heart disease or arteriosclerosis, but in all other conditions the benefit derived should cause them to be generally adopted. Bose recommends hot baths in all the acute infectious diseases of children, but Giappone was the first to advocate baths of this temperature. Ortner reports excellent results from them in his "Manual of Therapeutics," published at Vienna last year. He orders them in bronchitis and pneumonia. The blood pressure usually drops slightly during the bath, but rises later, and surpasses what it was before the bath. The temperature may rise a fraction of a degree, and the pulse is slightly increased. In a few cases the blood pressure remained slightly below what it was before the baths, but the patient's euphoria and sweat were pronounced in every case.

New Patents.

Patents of Interest to Physicians, issued September 17 and 24:

683,012. Optical instrument. Henry H. Hill, St. Louis, Mo.
682,936. Hernial truss. George V. House, Mount Vernon, N. Y.
682,854. Stopper for water-bags. Charles E. Longden, Hampden, Conn.
682,832. Speculum. J. Gordon McPherson, Toronto, Canada.
682,638. Eye-tester. Henry D. Reese, Abbeville, S. C.
682,650. Bed-pan. George Thornton, F. D. Freeborn and W. Hiller, Randolph, N. Y.
35,087. Design, suppository. Henry H. Foringer, Eria, Pa.
683,099. Syringe. Arthur E. Bonesteel, Central City, Colo.
683,380. Obstetrical appliance. Patrick F. Cassidy, Boston, Mass.
683,044. Bed-pan. Richard E. Holder, Columbus, Ind.
683,216. Therapeutic battery. Joseph A. Minturn, Indianapolis, Ind.
683,192. Apparatus for assisting the hearing. Alfred F. Watch, Philadelphia, Pa.

Books Received

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY, Including Many of the Principal Conceptions of Ethics, Logic, Anesthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science, and Education, and Giving a Terminology in English, French, German and Italian. Written by Many Hands and Edited by James Mark Baldwin, Ph.D. (Princeton), Hon. D.Sc. (Oxon.), Hon. LL.D. (Glasgow), Stuart Professor in Princeton University. With the Co-operation and Assistance of an International Board of Consulting Editors. In Three Volumes, with Illustrations and Extensive Bibliographies. Vol. I. Cloth. Pp. 644. Price, $5.00. New York: The MacMillan Co. 1901.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry and Kindred Branches, Including Much Collateral Information of an Encyclopedic Character, Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables, Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. By W. A. Newman Dorland, A.M., M.D., editor of the "American Pocket Medical Dictionary." Second Edition, Revised. Leather. Pp. 770. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume III. September, 1901. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs, and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Cloth. Pp. 428. Price, per annum, in four volumes, $10.00. Philadelphia and New York: Lea Brothers & Co. 1901.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS. For Students, General Practitioners, and Specialists. By Numerous Associated Authors. Edited by Horatio R. Bigelow, M.D., Permanent Member of the American Medical Association. Second Edition. Revised and brought up to date, with several New Departments, Embodying the Most Recent Developments of the Science. Edited by G. Betton Massey, M.D., Ex-President and Fellow of the American Electro-Therapeutic Association. Thoroughly Illustrated. Royal Octavo. Pp. x-1147. Price, $6.00. Philadelphia: F. A. Davis Company. 1901.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank B. Mallory, A.M., M.D., Assistant Professor of Pathology, Harvard University Medical School; and James H. Wright, A.M., M.D., Instructor in Pathology, Harvard University Medical School. Second Edition, Revised and Enlarged. With 137 Illustrations. Cloth. Pp. 432. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TREATISE ON THE ACUTE, INFECTIOUS EXANTHEMATA. Including Variola, Rubeola, Scarlatina, Rubella, Varicella, and Vaccinia, with especial reference to Diagnosis and Treatment. By William Thomas Corlett, M.D., L.R.C.P. Lond. Professor of Dermatology and Syphilology in Western Reserve University. Illustrated by 12 Colored Plates, 28 Half-tone Plates from Life, and 2 Engravings. Pages viii-392. Sold only by Subscription. Price, Extra Cloth, $4.00 net, Delivered. Philadelphia: F. A. Davis Company. 1901.

MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-Book Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore. Seventh Edition, Thoroughly Revised. With 66 Illustrations, 1 Colored Spectra Plate, and 8 Colored Plates, Representing 64 Chemical Reactions. Cloth. Pp. 613. Price, $3.00. Philadelphia and New York: Lea Brothers & Co. 1901.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases, and Head of Neurological Department, Northwestern University Medical School, and Frederick Peterson, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, Columbia University. Third Edition, Revised and Enlarged. Cloth. Pp. 870. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By Joseph Howard Raymond, A.M., M.D., Professor of Physiology and Hygiene in the Long Island College Hospital, New York City. Second Edition, Entirely Rewritten and Greatly Enlarged. 443 Illustrations, 12 of them in Colors, and 4 Full-page Lithographic Plates. Cloth. Pp. 668. Price, $3.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

INTERNATIONAL DIRECTORY OF LARYNGOLOGISTS AND OTOLOGISTS. Containing Names and Addresses of Practitioners Engaged in the Study and Practice of Laryngology and Otology. Compiled by Richard Lake, F.R.C.S., Eng. Published under the Auspices of the Journal of Laryngology, Rhinology and Otology. Second Edition. Revised and Enlarged. Leather. Pp. 124. Price, $1.25. London: Rebman, Ltd. 1901.

ELECTRICITY IN MEDICINE AND SURGERY, Including the X-Ray. By William Harvey King, M.D., Editor of the Journal of Electrotherapeutics. In Two Parts. With a Section on Electro-physiology, by W. Y. Cowl, M.D., Berlin, Germany, and a Section on the Bottini Operation, by Albert Freudenberg, M.D., Berlin, Germany. Cloth. Pp. 296. Price, $3.50. New York: Boericke & Runyon Co. 1901.

DOSE-BOOK AND MANUAL OF PRESCRIPTION-WRITING: With a List of the Official Drugs and Preparations, and the More Important Newer Remedies. By E. Q. Thornton, M.D., Ph.G., Demonstrator of Therapeutics, Jefferson Medical College, Philadelphia. Second Edition, Revised and Enlarged. Leather. Pp. 362. Price, $2.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

TRANSACTIONS OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION. Complete account of Ninth Annual Meeting held at Washington, D. C., September 19, 20 and 21, 1899; also Tenth Annual Meeting held at New York City, September 25, 26, and 27, 1900. Illustrated. Pages xv-391. Price, Extra Cloth, $2.00 net, Delivered. Philadelphia: F. A. Davis Company. 1901.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By John V. Shoemaker, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia.

Fourth Edition, Revised and Enlarged with Chromogravure Plates and Other Illustrations. Cloth. Pp. 892. Price, $5.00. New York: D. Appleton & Co. 1901.

A MANUAL OF THE PRACTICE OF MEDICINE. By George Roe Lockwood, M.D., Professor of Practice in Woman's Medical College of New York Infirmary. Second Edition, Revised and Enlarged. With 79 Illustrations and 20 Full-page Plates. Cloth. Pp. 847. Price, $4.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF OBSTETRICS. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Third Edition, Thoroughly Revised and Enlarged. With 704 illustrations, many of them in Colors. Cloth. Pp. 873. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A LABORATORY COURSE IN BACTERIOLOGY. For the Use of Medical, Agricultural, and Industrial Students. By Frederick P. Gorham, A.M., Professor of Biology, Brown University. With 97 Illustrations. 12mo. Volume. Cloth. Pp. 198. Price, $1.25 net. Philadelphia and London: W. B. Saunders & Co. 1901.

THE PRINCIPLES OF HYGIENE: A Practical Manual for Students, Physicians, and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. Illustrated. Cloth. Pp. 495. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

MODERN OBSTETRICS: GENERAL AND OPERATIVE. W. A. Newman Dorland, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania. Second Edition, Rewritten and Enlarged. Cloth. Pp. 797. Price, $4.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF EMBRYOLOGY. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Second Edition, Thoroughly Revised. Illustrated. Cloth. Pp. 405. Price, $2.50. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF BACTERIOLOGY. By George M. Sternberg, M.D., LL.D., Surgeon-General, U. S. Army. Illustrated by Heliotype and Chromo-lithographic Plates and 200 Engravings. Second Edition, Revised. Cloth. Pp. 707. Price, $5.00. New York: Wm. Wood & Co. 1901.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., formerly Professor of Gynecology in the University of Pennsylvania. Fourth Edition, Revised. Cloth. Pp. 539. Price, $3.75 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A MANUAL OF BACTERIOLOGY. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology in the Medical Department of the University of Buffalo. With 89 Illustrations. Cloth. Pp. 290. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

LIBERTINISM AND MARRIAGE. By Dr. Louis Julien (Paris), Surgeon of Saint-Lazare Prison. Translated by R. B. Douglas. Pages v-169. Extra Cloth, $1.00 net. Delivered. Philadelphia: F. A. Davis Company, Publishers. 1901.

TWENTIETH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF NEW YORK. For the Year ending December 31, 1899. Transmitted to the Legislature February 15, 1900. Cloth. Pp. 555. Albany: James B. Lyon. 1901.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. The State Board of Health, Organized 1847—Meeting of 1901. Selma, April 16-19. Cloth. Pp. 508. Montgomery, Ala.: Brown Printing Co. 1901.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By Victor G. Vecki, M.D. Third Edition, Revised and Enlarged. 12mo. Cloth. Pp. 329. Price, $2.00. Philadelphia and London: W. B. Saunders & Co. 1901.

TRANSACTIONS OF THE MASSACHUSETTS MEDICO-LEGAL SOCIETY. Volume III—Number 3: 1901. Paper. Pp. 44. Boston: Published by the Society. 1901.

PROCEEDINGS OF THE NEW YORK PATHOLOGICAL SOCIETY. April, 1901. Paper. Pp. 44. Published by the Society.

MAPS ACCOMPANYING STATE BOARD OF HEALTH OF NEW YORK. Twentieth Annual Report for the Year 1899.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Sept. 26 to Oct. 2, 1901, inclusive:

Joseph L. Bell, contract surgeon, from Fort Morgan, Ala., to his home, Richmond, Ind., for annulment of contract.

Henry D. Belt, contract surgeon, leave of absence granted.

James Carroll, contract surgeon, former orders amended so as to direct him to return from Havana, Cuba, to his proper station in Washington, D. C., not later than Nov. 1, 1901.

Max F. Clausius, contract surgeon, on his arrival at Fort Douglas, Utah, to proceed to Fort Grant, Ariz., for post duty; but this order was revoked, and he was directed to proceed to his home, Burrington, Ill., for annulment of contract.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., sick leave of absence extended.

Frederick A. Dale, lieutenant and asst.-surgeon, U. S. A., to proceed to San Francisco, Cal., for return transportation to Manila, P. I., in compliance with orders from the Division of the Philippines.

Robert C. Eve, contract surgeon, from Fort Freemont, S. C., to Augusta, Ga., for annulment of contract.

Samuel A. Greenwell, contract surgeon, from duty at Fort Clark, Tex., to his home, Cleburn, Tex., for annulment of contract.

Eugene H. Hartnet, lieutenant and asst.-surgeon, U. S. A., member of examining boards at Governor's Island, N. Y., Sept. 27 and 28.

T. G. Holmes, contract surgeon, leave of absence granted on the expiration of which he will proceed to San Francisco, Cal., for duty on the transport *Grant*.

Frederick E. Jenkins, contract surgeon, on his arrival at Fort Riley, Kan, with troops, will proceed to Fort Morgan, Ala., for post duty.

William P. Kendall, major and surgeon, U. S. A., member of a board at Buffalo, N. Y., to determine the physical fitness of certain persons for appointment as lieutenants in the Army.

William C. LeCompte, contract surgeon, member of a board at Buffalo, N. Y., to determine the physical fitness of certain persons for appointment as lieutenants in the army.

Frederick H. Morhart, captain and asst.-surgeon, Vols., honorably discharged from the service on account of disability.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Buffalo, N. Y., to determine the physical fitness of certain persons for appointment as lieutenants in the Army.

Paul Shillock, major and surgeon, U. S. A., now at San Francisco, Cal., to proceed to Fort Riley, Kan., for duty at that post.

J. Samuel White, contract surgeon, having arrived at Seattle, Wash., will proceed to Fort Assinniboine, Mont., for post duty.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Oct. 5, 1901:

Surgeon P. Leach, ordered to recruiting duty at Port Royal, S. C.

Surgeon P. Leach, order to recruiting duty at Port Royal, S. C., revoked.

Asst.-Surgeon E. J. Grow, order to proceed home, upon detachment from the *Castine*, modified; ordered to the New York Navy Yard.

Medical Director J. C. Ayers, detached from the Naval Hospital, Chelsea, Mass., October 15, and ordered home and to wait orders.

Medical Director D. Dickinson, detached from duty on medical examining board at Washington, D. C., October 10, and ordered to duty in charge of the Naval Hospital, Chelsea, Mass., October 13.

Surgeon S. H. Griffith, detached from duty at the Pan-American Exposition, Buffalo, N. Y., October 9, and ordered to duty as a member of the medical examining board, Washington, October 10.

Surgeon H. L. Law, retired, ordered to duty at Buffalo, N. Y., in charge of the exhibit of the Bureau of Medicine and Surgery, at the Pan-American Exposition, and as attending medical officer at the naval recruiting rendezvous, October 9.

Asst.-Surgeon D. B. Kerr, detached from the *Culgoa*, when put out of commission, and ordered home and to wait orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Sept. 28, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 14-21, 1 case.
Indiana: Michigan City, Sept. 24-Oct. 1, 4 cases.
Kentucky, Lexington, Sept. 21-28, 1 case.
Massachusetts: Boston, Sept. 21-28, 2 cases, 1 death.
Michigan: Detroit, Sept. 22-29, 1 case.
Nebraska: Omaha, Sept. 14-21, 1 case.
New Jersey: Newark, Sept. 21-28, 6 cases, 5 deaths.
New York: Sept. 21-28, Elmira, 4 cases; New York, 5 cases, 2 deaths.
Pennsylvania: Philadelphia, Sept. 21-28, 29 cases, 3 deaths.
Ohio: Youngstown, Sept. 21-28, 1 case.
Utah: Salt Lake City, Sept. 14-28, 2 cases.
Washington: Tacoma, Sept. 15-22, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 3-10, 1 case.

SMALLPOX—FOREIGN.

Austria: Budapest, Sept. 2-9, 2 cases.
Belgium: Antwerp, Sept. 7-14, 1 case, 1 death.
Brazil: Pernambuco, Aug. 8-15, 56 deaths; Rio de Janeiro, Aug. 4-18, 114 deaths.
Colombia: Panama, Sept. 16-23, 15 cases.
Great Britain: London, Aug. 24-Sept. 7, 166 cases, 15 deaths.
Italy: Naples, Sept. 7-14, 57 cases, 6 deaths.
Russia: Moscow, Sept. 7-14, 2 cases, 1 death.
Spain: Madrid, June 17-July 15, 6 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 3-10, 6 cases, 3 deaths.

PLAGUE—FOREIGN.

Australia: Brisbane, June 1-30, 3 deaths.
Brazil: Rio de Janeiro, Aug. 4-18, 5 deaths.
China: Canton, Aug. 5, diminishing.
Italy: Naples, Sept. 7-30, 15 cases, 4 deaths.

YELLOW FEVER.

Brazil: Pernambuco, Aug. 8-15, 1 death; Rio de Janeiro, Aug. 4-18, 2 deaths.
Cuba: Havana, Sept. 4-21, 3 cases, 2 deaths; Santiago, Sept. 20, 6 cases, 1 death.
Mexico: Vera Cruz, Sept. 14-21, 5 cases, 2 deaths.

CHOLERA.

Java: Batavia, Aug. 3-17, 5 cases, 3 deaths.